

SEQUENCE LISTING

<110> Anderson, David
Burgess, Catherine
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Colman, Steven
Edinger, Shlomit R.
Ellerman, Karen
Gerlach, Valerie
Gunther, Erik
Kekuda, Ramesh
MacDougall, John R.
Mehraban, Fuad
Patturajan, Meera
Rothenberg, Mark
Shimkets, Richard
Smithson, Glennnda
Spytek, Kimberly A.
Stone, David J.
Vernet, Corine A.M.
Zerhusen, Bryan D.



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Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly
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Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser
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 Ala Glu Arg Thr Gly Pro Ser Cys Asp Val Ser Cys Ser Gln Gly Thr

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<213> Homo sapiens

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Leu Leu Pro Ser Glu Pro Cys Glu Arg Pro Trp Glu Gly Pro His Thr
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Cys Pro Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val
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Lys Thr Asp His Arg Gln Arg Leu Gln Cys Cys His Gly Phe Tyr Glu
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Ser Arg Gly Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly
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Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly
115 120 125

Asp Asp Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys
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Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser
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Gly Val Cys Ser Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln
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Pro Cys Thr Pro Gly Tyr Tyr Gly Pro Ala Cys Gln Phe Arg Cys Gln
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Cys His Gly Ala Pro Cys Asp Pro Gln Thr Gly Ala Cys Phe Cys Pro
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Ala Glu Arg Thr Gly Pro Ser Cys Asp Val Ser Cys Ser Gln Gly Thr
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Ser Gly Phe Phe Cys Pro Ser Thr His Ser Cys Gln Asn Gly Gly Val
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Phe Gln Thr Pro Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Val
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Trp Arg Val Gly Pro Val Gly Met Gly Cys Gly Ser Gly Glu Asn Ser
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Val Gly Gly Ala Lys Gln Gly Ser Lys Gly Thr Ile Cys Ser Leu Pro
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Cys Pro Glu Gly Phe His Gly Pro Asn Cys Ser Gln Glu Cys Arg Cys
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His Asn Gly Gly Leu Cys Asp Arg Phe Thr Gly Gln Cys Arg Cys Ala
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Pro Gly Tyr Thr Gly Asp Arg Cys Arg Glu Glu Cys Pro Val Gly Arg
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Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp Cys Ala Pro Asp Ala Arg
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Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys Glu His Gly Phe Thr Gly
 355 360 365

Asp Arg Cys Thr Asp Arg Leu Cys Pro Asp Gly Phe Tyr Gly Leu Ser
 370 375 380

Cys Gln Ala Pro Arg Thr Cys Asp Arg Glu His Ser Leu Ser Cys His
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Pro Met Asn Gly Glu Cys Ser Cys Leu Pro Gly Trp Ala Gly Leu His
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Cys Asn Glu Ser Cys Pro Gln Asp Thr His Gly Pro Gly Cys Gln Glu
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Arg Cys Leu Cys Leu His Gly Gly Val Cys Gln Ala Thr Ser Gly Leu
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Cys Gln Cys Ala Pro Gly Tyr Thr Gly Pro His Cys Ala Ser Leu Cys
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Pro Pro Asp Thr Tyr Gly Val Asn Cys Ser Ala Arg Cys Ser Cys Glu
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Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly Glu Cys Val Cys Lys Glu
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Gly Trp Gln Arg Gly Asn Cys Ser Val Pro Cys Pro Pro Gly Thr Trp
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Gly Phe Ser Cys Asn Ala Ser Cys Gln Cys Ala His Glu Ala Val Cys
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Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr Pro Gly Trp His Gly Ala
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His Cys Gln Leu Pro Cys Pro Lys Gly Gln Phe Gly Glu Gly Cys Ala
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Lys Asn Gly Gly Thr Cys Leu Pro Glu Asn Gly Asn Cys Val Cys Ala
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His Pro Ser Asn Gly Ala Cys Tyr Cys Leu Ala Gly Trp Thr Gly Pro
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Gln Thr Cys Gln Cys His His Gly Gly Thr Cys His Pro Gln Asp Gly
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Cys Pro Leu Gly Thr Phe Gly Ala Asn Cys Ser Gln Pro Cys Gln Cys
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 Pro Gly His Ser Gly Ala Pro Cys Arg Ile Gly Ile Gln Glu Pro Phe
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 Thr Val Met Pro Thr Thr Pro Val Ala Tyr Asn Ser Leu Gly Ala Val
 770 775 780
 Ile Gly Ile Ala Val Leu Gly Ser Leu Val Val Ala Leu Val Ala Leu
 785 790 795 800
 Phe Ile Gly Tyr Arg His Trp Gln Lys Asp Lys Glu His His His Leu
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 Ala Val Ala Tyr Ser Ser Gly Arg Leu Asp Gly Ser Glu Tyr Val Met
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 Pro Asp Val Pro Pro Ser Tyr Ser His Tyr Tyr Ser Asn Pro Ser Tyr
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 His Thr Leu Ser Gln Cys Ser Pro Asn Pro Pro Pro Pro Asn Lys Val
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 Pro Gly Pro Leu Phe Ala Ser Leu Gln Asn Pro Glu Arg Pro Gly Gly
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 Ala Gln Gly His Asp Asn His Thr Thr Leu Pro Ala Asp Trp Lys His
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<212> PRT

<213> Homo sapiens

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Cys Pro Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val
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Ser Arg Gly Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly
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Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly
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Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser
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Gly Val Cys Ser Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln
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Pro Cys Thr Pro Gly Tyr Tyr Gly Pro Ala Cys Gln Phe Arg Cys Gln
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Cys His Gly Ala Pro Cys Asp Pro Gln Thr Gly Ala Cys Phe Cys Pro
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Ser Gly Phe Phe Cys Pro Ser Thr His Pro Cys Gln Asn Gly Gly Val
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Thr Ile Cys Ser Leu Pro Cys Pro Glu Gly Phe His Gly Pro Asn Cys
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Ser Gln Glu Cys Arg Cys His Asn Gly Gly Leu Cys Asp Arg Phe Thr
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Gly Gln Cys Arg Cys Ala Pro Gly Tyr Thr Gly Asp Arg Cys Arg Glu
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Glu Cys Pro Val Gly Arg Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp
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Cys Ala Pro Asp Ala Arg Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys
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Glu His Gly Phe Thr Gly Asp Arg Cys Thr Asp Arg Leu Cys Pro Asp
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Gly Phe Tyr Gly Leu Ser Cys Gln Ala Pro Arg Thr Cys Asp Arg Glu
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His Ser Leu Ser Cys His Pro Met Asn Gly Glu Cys Ser Cys Leu Pro
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Gly Trp Ala Gly Leu His Cys Asn Glu Ser Cys Pro Gln Asp Thr His
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Gly Pro Gly Cys Gln Glu His Cys Leu Cys Leu His Gly Gly Val Cys
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Gln Ala Thr Ser Gly Leu Cys Gln Cys Ala Pro Gly Tyr Thr Gly Pro
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His Cys Ala Ser Leu Cys Pro Pro Asp Thr Tyr Gly Val Asn Cys Ser
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Ala Arg Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly
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Glu Cys Val Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro
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Cys Pro Pro Gly Thr Trp Gly Phe Ser Cys Asn Ala Ser Cys Gln Cys
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Ala His Glu Ala Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr
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Pro Gly Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln
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Ala Arg Cys His Leu Ser Cys Pro Glu Gly Leu Trp Gly Val Asn Cys			
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Ser Asn Thr Cys Thr Cys Lys Asn Gly Gly Thr Cys Leu Pro Glu Asn			
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Ser Cys Gln Pro Gly Arg Tyr Gly Lys Arg Cys Val Pro Cys Lys Cys			
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Ala Gly Trp Thr Gly Pro Asp Cys Ser Gln Pro Cys Pro Pro Gly His			
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Trp Gly Glu Asn Cys Ala Gln Thr Cys Gln Cys His His Gly Gly Thr			
	660	665	670
Cys His Pro Gln Asp Gly Ser Cys Ile Cys Pro Leu Gly Trp Thr Gly			
	675	680	685
His His Cys Leu Glu Gly Cys Pro Leu Gly Thr Phe Gly Ala Asn Cys			
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Gly Ala Cys Val Cys Pro Pro Gly His Ser Gly Ala Pro Cys Arg Ile			
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Gly Ile Gln Glu Pro Phe Thr Val Met Pro Thr Thr Pro Val Ala Tyr			
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Asn Ser Leu Gly Ala Val Ile Gly Ile Ala Val Leu Gly Ser Leu Val			
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Val Ala Leu Val Ala Leu Phe Ile Gly Tyr Arg His Trp Gln Lys Asp			
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Lys Glu His His His Leu Ala Val Ala Tyr Ser Ser Gly Arg Leu Asp
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 Ser Pro Lys Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val
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 Arg His Pro Pro Ser Pro Pro Leu Arg Arg Gln Asp Arg
 1025 1030 1035

<210> 9
 <211> 3114
 <212> DNA
 <213> Homo sapiens

<400> 9
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<210> 10

<211> 1037

<212> PRT

<213> Homo sapiens

<400> 10

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Met Ser Pro Pro Leu Cys Pro Leu Leu Leu Leu Ala Val Gly Leu Arg
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```

```

Leu Ala Gly Thr Leu Asn Pro Ser Asp Pro Asn Thr Cys Ser Phe Trp
          20                      25                      30

```

```

Glu Ser Phe Thr Thr Thr Thr Lys Glu Ser His Ser Arg Pro Phe Ser
          35                      40                      45

```

```

Leu Leu Pro Ser Glu Pro Cys Glu Arg Pro Trp Glu Gly Pro His Thr
          50                      55                      60

```

```

Cys Pro Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val
          65                      70                      75                      80

```

```

Lys Thr Asp His Arg Gln Arg Leu Gln Cys Cys His Gly Phe Tyr Glu
          85                      90                      95

```

```

Ser Arg Glu Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly
          100                     105                     110

```

```

Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly
          115                     120                     125

```

```

Asp Asp Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys
          130                     135                     140

```

```

Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser
          145                     150                     155                     160

```

Gly Val Cys Ser Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln	165	170	175
Pro Cys Thr Pro Gly Tyr Tyr Gly Pro Ala Cys Gln Phe Arg Cys Gln	180	185	190
Cys His Gly Ala Pro Cys Asp Pro Gln Thr Gly Ala Cys Phe Cys Pro	195	200	205
Ala Glu Arg Thr Gly Pro Ser Cys Asp Val Ser Cys Ser Gln Gly Thr	210	215	220
Ser Gly Phe Phe Cys Pro Ser Thr His Pro Cys Gln Asn Gly Gly Val	225	230	235
Phe Gln Thr Pro Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Gly	245	250	255
Thr Ile Cys Ser Leu Pro Cys Pro Glu Gly Phe His Gly Pro Asn Cys	260	265	270
Ser Gln Glu Cys Arg Cys His Asn Gly Gly Leu Cys Asp Arg Phe Thr	275	280	285
Gly Gln Cys Arg Cys Ala Pro Gly Tyr Thr Gly Asp Arg Cys Arg Glu	290	295	300
Glu Cys Pro Val Gly Arg Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp	305	310	315
Cys Ala Pro Asp Ala Arg Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys	325	330	335
Glu His Gly Phe Thr Gly Asp Arg Cys Thr Asp Arg Leu Cys Pro Asp	340	345	350
Gly Phe Tyr Gly Leu Ser Cys Gln Ala Pro Cys Thr Cys Asp Arg Glu	355	360	365
His Ser Leu Ser Cys His Pro Met Asn Gly Glu Cys Ser Cys Leu Pro	370	375	380
Gly Trp Ala Gly Leu His Cys Asn Glu Ser Cys Pro Gln Asp Thr His	385	390	395
Gly Pro Gly Cys Gln Glu Tyr Cys Leu Cys Leu His Gly Gly Val Cys	405	410	415

Gln Ala Thr Ser Gly Leu Cys Gln Cys Ala Pro Gly Tyr Thr Gly Pro
 420 425 430

His Cys Ala Ser Leu Cys Pro Pro Asp Thr Tyr Gly Val Asn Cys Ser
 435 440 445

Ala Arg Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly
 450 455 460

Glu Cys Val Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro
 465 470 475 480

Cys Pro Pro Gly Thr Trp Gly Phe Ser Cys Asn Ala Ser Cys Gln Cys
 485 490 495

Ala His Glu Ala Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr
 500 505 510

Pro Gly Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln
 515 520 525

Phe Gly Glu Gly Cys Ala Ser Arg Cys Asp Cys Asp His Ser Asp Gly
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Cys Asp Pro Val His Gly Arg Cys Gln Cys Gln Ala Gly Trp Met Gly
 545 550 555 560

Ala Arg Cys His Leu Ser Cys Pro Glu Gly Leu Trp Gly Val Asn Cys
 565 570 575

Ser Asn Thr Cys Thr Cys Lys Asn Gly Gly Thr Cys Leu Pro Glu Asn
 580 585 590

Gly Asn Cys Val Cys Ala Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg
 595 600 605

Ser Cys Gln Pro Gly Arg Tyr Gly Lys Arg Cys Val Pro Cys Lys Cys
 610 615 620

Ala Asn His Ser Phe Cys His Pro Ser Asn Gly Thr Cys Tyr Cys Leu
 625 630 635 640

Ala Gly Trp Thr Gly Pro Asp Cys Ser Gln Pro Cys Pro Pro Gly His
 645 650 655

Trp Gly Glu Asn Cys Ala Gln Thr Cys Gln Cys His His Gly Gly Thr
 660 665 670

Cys His Pro Gln Asp Gly Ser Cys Ile Cys Pro Leu Gly Trp Thr Gly
 675 680 685

His His Cys Leu Glu Gly Cys Pro Leu Gly Thr Phe Gly Ala Asn Cys
 690 695 700

Ser Gln Pro Cys Gln Cys Gly Pro Gly Glu Lys Cys His Pro Glu Thr
 705 710 715 720

Gly Ala Cys Val Cys Pro Pro Gly His Ser Gly Ala Pro Cys Arg Ile
 725 730 735

Gly Ile Gln Glu Pro Phe Thr Val Met Pro Thr Thr Pro Val Ala Tyr
 740 745 750

Asn Ser Leu Gly Ala Val Ile Gly Ile Ala Val Leu Gly Ser Leu Val
 755 760 765

Val Ala Leu Val Ala Leu Phe Ile Gly Tyr Arg His Trp Gln Lys Gly
 770 775 780

Lys Glu His His His Leu Ala Val Ala Tyr Ser Ser Gly Arg Leu Asp
 785 790 795 800

Gly Ser Glu Tyr Val Met Pro Asp Val Pro Pro Ser Tyr Ser His Tyr
 805 810 815

Tyr Ser Asn Pro Ser Tyr His Thr Leu Ser Gln Cys Ser Pro Asn Pro
 820 825 830

Pro Pro Pro Asn Lys Val Pro Gly Pro Leu Phe Ala Ser Leu Gln Asn
 835 840 845

Pro Glu Arg Pro Gly Gly Ala Gln Gly His Asp Asn His Thr Thr Leu
 850 855 860

Pro Ala Asp Trp Lys His Arg Arg Glu Pro Pro Pro Gly Pro Leu Asp
 865 870 875 880

Arg Gly Ser Ser His Leu Asp Arg Ser Tyr Ser Tyr Ser Tyr Ser Asn
 885 890 895

Gly Pro Gly Pro Phe Tyr Asp Lys Gly Leu Ile Ser Glu Glu Glu Leu
 900 905 910

Gly Ala Ser Val Thr Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile
 915 920 925

Arg Asp Leu Pro Ser Leu Pro Gly Gly Pro Arg Glu Ser Ser Tyr Met
 930 935 940

Glu Met Lys Gly Pro Pro Ser Gly Ser Pro Pro Arg Gln Pro Pro Gln
 945 950 955 960

Phe Trp Asp Ser Gln Arg Arg Arg Gln Pro Gln Pro Gln Arg Asp Ser
 965 970 975

Gly Thr Tyr Glu Gln Pro Ser Pro Leu Ile His Asp Arg Asp Ser Val
 980 985 990

Gly Ser Gln Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly His Tyr Asp
 995 1000 1005

Ser Pro Lys Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val
 1010 1015 1020

Arg His Pro Pro Ser Pro Pro Leu Arg Arg Gln Asp Arg
 1025 1030 1035

<210> 11

<211> 1833

<212> DNA

<213> Homo sapiens

<400> 11

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<210> 12

<211> 557

<212> PRT

<213> Homo sapiens

<400> 12

Met Leu Ala Ser Pro Ala Thr Glu Thr Thr Val Leu Met Ser Gln Thr
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Glu Ala Asp Leu Ala Leu Arg Pro Pro Pro Pro Leu Gly Thr Ala Gly
 20 25 30

Gln Pro Arg Leu Gly Pro Pro Pro Arg Arg Ala Arg Arg Phe Ser Gly
 35 40 45

Lys Ala Glu Pro Arg Pro Arg Ser Ser Arg Pro Ser Arg Arg Ser Ser
 50 55 60

Val Asp Leu Gly Leu Leu Ser Ser Trp Ser Gln Pro Ala Ser Leu Leu
 65 70 75 80

Pro Glu Pro Pro Asp Pro Pro Asp Ser Ala Gly Pro Thr Arg Ser Pro
 85 90 95

Pro Ser Ser Ser Lys Glu Pro Pro Glu Gly Thr Trp Met Gly Ala Ala
 100 105 110

Pro Val Lys Ala Val Asp Ser Ala Cys Pro Glu Leu Thr Gly Ser Ser
 115 120 125

Gly Gly Pro Gly Ser Arg Glu Pro Leu Arg Val Pro Glu Ala Val Ala
 130 135 140

Leu Glu Arg Arg Arg Glu Gln Glu Glu Lys Glu Asp Met Glu Thr Gln

145		150		155		160
Ala Val Ala Thr Ser Pro Asp Gly Arg Tyr Leu Lys Phe Asp Ile Glu						
	165		170		175	
Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Arg Gly Leu Asp Thr Asp						
	180		185		190	
Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Thr Arg Lys Leu Ser						
	195		200		205	
Arg Ala Glu Arg Gln Arg Phe Ser Glu Glu Val Glu Met Leu Lys Gly						
	210		215		220	
Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Lys Ser Val						
	225		230		235	240
Leu Arg Gly Gln Val Cys Ile Val Leu Val Thr Glu Leu Met Thr Ser						
	245		250		255	
Gly Thr Leu Lys Thr Tyr Leu Arg Arg Phe Arg Glu Met Lys Pro Arg						
	260		265		270	
Val Leu Gln Arg Trp Ser Arg Gln Ile Leu Arg Gly Leu His Phe Leu						
	275		280		285	
His Ser Arg Val Pro Pro Ile Leu His Arg Asp Leu Lys Cys Asp Asn						
	290		295		300	
Val Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp Leu Gly						
	305		310		315	320
Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile Gly Thr						
	325		330		335	
Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp Glu Ala						
	340		345		350	
Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala Thr Ser						
	355		360		365	
Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr Arg Lys						
	370		375		380	
Val Thr Ser Gly Arg Lys Pro Asn Ser Phe His Lys Val Lys Ile Pro						
	385		390		395	400
Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Thr Asp Lys Asn Glu						

405	410	415
Arg Phe Thr Ile Gln Asp Leu Leu Ala His Ala Phe Phe Arg Glu Glu		
420	425	430
Arg Gly Val His Val Glu Leu Ala Glu Glu Asp Asp Gly Glu Lys Pro		
435	440	445
Gly Leu Lys Leu Trp Leu Arg Met Glu Asp Ala Arg Arg Gly Gly Arg		
450	455	460
Pro Arg Asp Asn Gln Ala Ile Glu Phe Leu Phe Gln Leu Gly Arg Asp		
465	470	475
Ala Ala Glu Glu Val Ala Gln Glu Met Val Ala Leu Gly Leu Val Cys		
485	490	495
Glu Ala Asp Tyr Gln Pro Val Ala Arg Ala Val Arg Glu Arg Val Ala		
500	505	510
Ala Ile Gln Arg Lys Arg Glu Lys Leu Arg Lys Ala Arg Glu Leu Glu		
515	520	525
Ala Leu Pro Pro Glu Pro Gly Pro Pro Pro Ala Thr Val Pro Met Asp		
530	535	540
Pro Gly Pro Pro Thr Asp Val Tyr Pro Pro His Glu Thr		
545	550	555

<210> 13

<211> 2646

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1408)

<223> Where n is a or c or t or g.

<400> 13

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<210> 14
<211> 322
<212> PRT
<213> Homo sapiens

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<220>
<221> VARIANT
<222> (203)

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<223> Where Xaa is Ile or Met

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20 25 30

Arg Val Leu Phe Ala Ile Ile Leu Pro Ala Tyr Leu Leu Thr Leu Leu
35 40 45

Gly Asn Ser Ile Ile Ile Leu Val Ser Arg Leu Asp Pro His Leu His
50 55 60

Thr Pro Met Tyr Phe Phe Leu Thr His Leu Ser Phe Leu Asp Leu Ser
65 70 75 80

Phe Thr Ser Ser Ser Ile Pro Gln Leu Leu Tyr Asn Leu Ser Gly Pro
85 90 95

Asp Lys Thr Ile Ser Tyr Val Gly Cys Ala Leu Gln Leu Val Leu Phe
100 105 110

Leu Gly Leu Gly Gly Val Glu Cys Leu Leu Leu Ala Val Met Ala Tyr
115 120 125

Asp Arg Phe Val Ala Val Cys Lys Pro Leu His Tyr Met Val Ile Met
130 135 140

Asn Pro Gln Leu Cys Arg Gly Leu Val Ser Val Thr Trp Gly Cys Gly
145 150 155 160

Val Ala Asn Ser Leu Ala Met Ser Pro Val Thr Leu Arg Leu Pro Arg
165 170 175

Cys Gly His His Glu Val Asp His Phe Leu Arg Glu Met Pro Ala Leu
180 185 190

Ile Arg Met Ala Cys Val Ser Thr Val Ala Xaa Glu Gly Thr Val Phe
195 200 205

Val Leu Ala Val Gly Ala Ala Leu Ser Pro Leu Val Phe Ile Met Ile
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Ser Tyr Ser Tyr Ile Val Arg Ala Val Leu Gln Ile Arg Ser Ala Ser
225 230 235 240

Gly Arg Gln Lys Ala Phe Gly Thr Cys Gly Ser His Leu Thr Val Val
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Ser Leu Phe Tyr Gly Asn Ile Ile Tyr Met Tyr Met Gln Pro Gly Ala
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Ser Ser Ser Gln Asp Gln Gly Lys Phe Leu Thr Leu Phe Tyr Asn Ile
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<212> PRT

<213> Homo sapiens

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Ala Ala Ser Arg Glu His Pro Phe Pro Gly Thr Leu Met His Ser Ala
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Ala Gly Ser Gly Arg Arg Arg Gly Ala Leu Arg Glu Leu Leu Gly Leu
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Gln Arg Ala Ala Pro Ala Gly Trp Leu Ser Glu Glu Arg Ala Glu Glu
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 Pro Ile Thr Gly Tyr Ser Val Leu His Trp Leu Ala Lys His Gly Arg
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 His Glu Glu Leu Ile Leu Val His Asp Phe Ala Leu Arg Arg Gly Leu
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 Arg Leu Asp Val Ser Ala Pro Gly Ser Gly Gly Leu Thr Pro Leu His
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 195 200 205
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 Cys His Tyr Leu Arg Pro Asp Ala Pro Trp Arg Leu Arg Glu Leu Ser
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 Phe Ser Ala Ile Cys Ser Pro His Ser Arg Thr Val Asp Arg Asp Arg
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Ser Gly Leu Leu
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 85 90 95
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 Arg Glu His Ala Trp Ile Leu Ala Ala Ala Glu Gly Arg Tyr Glu Val
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 Leu Arg Glu Leu Leu Glu Ala Glu Pro Glu Leu Leu Leu Arg Gly Asp
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 Pro Ile Thr Gly Tyr Ser Val Leu His Trp Leu Ala Lys His Gly Arg
 145 150 155 160
 His Glu Glu Leu Ile Leu Val His Asp Phe Ala Leu Arg Arg Gly Leu
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<210> 19

<211> 6272

<212> DNA

<213> Homo sapiens

<400> 19

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<212> PRT

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Glu Val Arg Glu Arg Ala Ser Lys Arg Lys Leu Pro Phe Thr Ala Gly
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Ala Asn Gly Glu Gln Lys Asp Ser Asp Thr Gly Thr Ser Pro Thr Ala
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 165 170 175
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 Ala Ile Arg Gly Asp Ala Arg Arg Ile Lys Glu Leu Ile Ser Glu Gly
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 Ala Asp Val Asn Val Lys Asp Phe Ala Gly Trp Thr Ala Leu His Glu
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 Gly Gly Asn Pro Gln Gln Ser Asn Arg Lys Gly Glu Thr Pro Leu Lys
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 Val Ala Asn Ser Pro Thr Met Val Asn Leu Leu Leu Gly Lys Gly Thr
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 Tyr Thr Ser Ser Glu Glu Ser Ser Ser Glu Glu Glu Asp Ala Pro Ser
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 Phe Ala Pro Ser Ser Ser Val Asp Gly Asn Asn Thr Asp Ser Glu Phe
 325 330 335
 Glu Lys Gly Leu Lys His Lys Ala Lys Asn Pro Glu Pro Gln Lys Ala
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Thr Ala Pro Val Lys Asp Glu Tyr Glu Phe Asp Glu Asp Asp Glu Gln
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 Asp Arg Val Pro Pro Val Asp Asp Lys His Leu Leu Lys Lys Asp Tyr
 370 375 380
 Arg Lys Glu Thr Lys Ser Asn Ser Phe Ile Ser Ile Pro Lys Met Glu
 385 390 395 400
 Val Lys Ser Tyr Thr Lys Asn Asn Thr Ile Ala Pro Lys Lys Ala Ser
 405 410 415
 His Arg Ile Leu Ser Asp Thr Ser Asp Glu Glu Asp Ala Ser Val Thr
 420 425 430
 Val Gly Thr Gly Glu Lys Leu Arg Leu Ser Ala His Thr Ile Leu Pro
 435 440 445
 Gly Ser Lys Thr Arg Glu Pro Ser Asn Ala Lys Gln Gln Lys Glu Lys
 450 455 460
 Asn Lys Val Lys Lys Lys Arg Lys Lys Glu Thr Lys Gly Arg Glu Val
 465 470 475 480
 Arg Phe Gly Lys Arg Ser Asp Lys Phe Cys Ser Ser Glu Ser Glu Ser
 485 490 495
 Glu Ser Ser Glu Ser Gly Glu Asp Asp Arg Asp Ser Leu Gly Ser Ser
 500 505 510
 Gly Cys Leu Lys Gly Ser Pro Leu Val Leu Lys Asp Pro Ser Leu Phe
 515 520 525
 Ser Ser Leu Ser Ala Ser Ser Thr Ser Ser His Gly Ser Ser Ala Ala
 530 535 540
 Gln Lys Gln Asn Asp Gln His Thr Lys His Trp Lys Thr Ile Ser Ser
 545 550 555 560
 Pro Ala Trp Ser Glu Val Ser Ser Leu Ser Asp Ser Thr Arg Thr Arg
 565 570 575
 Leu Thr Ser Glu Ser Asp Tyr Ser Ser Glu Gly Ser Ser Val Glu Ser
 580 585 590
 Leu Lys Pro Val Arg Lys Arg Gln Glu His Arg Lys Arg Ala Ser Leu
 595 600 605

Ser Glu Lys Lys Ser Pro Phe Leu Ser Ser Ala Glu Gly Ala Val Pro
 610 615 620

Lys Leu Asp Lys Glu Gly Lys Val Val Lys Lys His Lys Thr Lys His
 625 630 635 640

Lys His Lys Asn Lys Glu Lys Ile Ser Gln Glu Leu Lys Leu Lys Ser
 645 650 655

Phe Thr Tyr Glu Tyr Glu Asp Ser Lys Gln Lys Ser Asp Lys Ala Ile
 660 665 670

Leu Leu Glu Asn Asp Leu Ser Thr Glu Asn Lys Leu Lys Val Leu Lys
 675 680 685

His Asp Arg Asp His Phe Lys Lys Glu Glu Lys Leu Ser Lys Met Lys
 690 695 700

Leu Glu Glu Lys Glu Trp Leu Phe Lys Asp Glu Lys Ser Leu Lys Arg
 705 710 715 720

Ile Lys Asp Lys Leu Arg Leu Tyr Lys Glu Glu Arg Asp Lys Ile Ser
 725 730 735

Lys Glu Lys Glu Lys Ile Phe Lys Glu Asp Lys Glu Lys Leu Lys Lys
 740 745 750

Glu Lys Val Tyr Arg Glu Asp Ser Leu Ser Asp Arg Asp Ser Ser Phe
 755 760 765

Asp Phe Lys Gly Ala Lys Leu Ile Leu Glu Thr Val Lys Glu Asp Ser
 770 775 780

Lys Glu Arg Arg Arg Asp Ser Arg Ala Arg Glu Lys His Pro Ala Arg
 785 790 795 800

Glu Lys Glu Lys Pro Asp Lys Arg Lys Arg Tyr Lys Glu Lys Asp Lys
 805 810 815

Asp Lys Ser Glu Lys Ser Ile Leu Glu Lys Cys Gln Lys Asp Lys Glu
 820 825 830

Lys Lys Glu Lys His Lys Asp Thr His Gly Lys Asp Lys Glu Arg Lys
 835 840 845

Ala Ser Val Phe Glu Lys His Lys Glu Lys Lys Asp Lys Glu Ser Thr
 850 855 860

Glu Lys Tyr Lys Asp Arg Ala Ser Val Asp Ser Thr Gln Asp Lys Lys
 865 870 875 880
 Asn Lys Gln Glu Lys Ala Glu Lys Lys His Ala Ala Glu Asp Lys Ala
 885 890 895
 Lys Ser Lys His Lys Glu Lys Ser Asp Lys Glu His Ser Lys Glu Arg
 900 905 910
 Lys Ser Ser Arg Ser Ala Asp Ala Glu Tyr Arg Glu Ser Glu Val Ser
 915 920 925
 Ser Asp Ser Phe Thr Asp Arg Glu Asp Asp Lys Ser Ala Cys Leu Pro
 930 935 940
 Glu Lys Leu Lys Glu Lys Arg His Arg His Ser Ser Ser Ser Ser Lys
 945 950 955 960
 Lys Ser His Asp Arg Glu Glu Lys Lys Glu Asp Tyr Lys Glu Gly Arg
 965 970 975
 Lys Gly Gln Tyr Glu Lys Asp Leu Glu Ala Asp Ala Tyr Gly Val Ser
 980 985 990
 Tyr Asn Met Lys Ala Ile Glu Leu Phe Glu Lys Lys Asp Lys Asn Asp
 995 1000 1005
 Glu Pro Leu Lys Glu Lys Lys Lys Arg Glu Lys His Arg Glu Lys Trp
 1010 1015 1020
 Arg Asp Glu Lys Glu Arg His Arg Asp Arg His Ala Asp Arg Pro Lys
 1025 1030 1035 1040
 Pro Ser Lys Asp Pro Gly Lys Lys Asp Ala Arg Pro Arg Glu Lys Leu
 1045 1050 1055
 Leu Gly Asp Gly Asp Leu Met Met Thr Ser Phe Glu Arg Met Leu Ser
 1060 1065 1070
 Gln Lys Asp Leu Glu Ile Glu Glu Arg His Lys Arg His Lys Glu Arg
 1075 1080 1085
 Met Lys Gln Met Glu Lys Leu Arg His Arg Ser Gly Asp Pro Lys Leu
 1090 1095 1100
 Lys Glu Lys Ala Lys Pro Ala Asp Asp Gly Arg Lys Lys Gly Leu Asp
 1105 1110 1115 1120

Ile Pro Ala Lys Lys Pro Pro Gly Leu Asp Pro Pro Phe Lys Asp Lys	1125	1130	1135
Lys Leu Lys Glu Ser Thr Pro Ile Pro Pro Ala Ala Glu Asn Lys Leu	1140	1145	1150
His Pro Ala Ser Gly Ala Asp Ser Lys Asp Trp Leu Ala Gly Pro His	1155	1160	1165
Met Lys Glu Val Leu Pro Ala Ser Pro Arg Pro Asp Gln Ser Arg Pro	1170	1175	1180
Thr Gly Val Pro Thr Pro Thr Ser Val Leu Ser Cys Pro Ser Tyr Glu	1185	1190	1195
Glu Val Met His Thr Pro Arg Thr Pro Ser Cys Ser Ala Asp Asp Tyr	1205	1210	1215
Ala Asp Leu Val Phe Asp Cys Ala Asp Ser Gln His Ser Thr Pro Val	1220	1225	1230
Pro Thr Ala Pro Thr Ser Ala Cys Ser Pro Ser Phe Phe Asp Arg Phe	1235	1240	1245
Ser Val Ala Ser Ser Gly Leu Ser Glu Asn Ala Ser Gln Ala Pro Ala	1250	1255	1260
Arg Pro Leu Ser Thr Asn Leu Tyr Arg Ser Val Ser Val Asp Ile Asp	1265	1270	1275
Lys Leu Phe Arg Gln Gln Ser Val Pro Ala Ala Ser Ser Tyr Asp Ser	1285	1290	1295
Pro Met Pro Pro Ser Met Glu Asp Arg Ala Pro Leu Pro Pro Val Pro	1300	1305	1310
Ala Glu Lys Phe Ala Cys Leu Ser Pro Gly Tyr Tyr Ser Pro Asp Tyr	1315	1320	1325
Gly Leu Pro Ser Pro Lys Val Asp Ala Leu His Cys Pro Pro Ala Ala	1330	1335	1340
Val Val Thr Val Thr Pro Ser Pro Glu Gly Val Phe Ser Ser Leu Gln	1345	1350	1355
Ala Lys Pro Ser Pro Ser Pro Pro Ser Leu Asp Thr Ser Glu Asp Gln	1365	1370	1375

Gln Ala Thr Ala Ala Ile Ile Pro Pro Glu Pro Ser Tyr Leu Glu Pro			
1380	1385	1390	
Leu Asp Glu Gly Pro Phe Ser Ala Val Ile Thr Glu Glu Pro Val Glu			
1395	1400	1405	
Trp Ala His Pro Ser Glu Gln Ala Leu Ala Ser Ser Leu Ile Gly Gly			
1410	1415	1420	
Thr Ser Glu Asn Pro Val Ser Trp Pro Val Gly Ser Asp Leu Leu Leu			
1425	1430	1435	1440
Lys Ser Pro Gln Arg Phe Pro Glu Ser Pro Lys Arg Phe Cys Pro Ala			
1445	1450	1455	
Asp Pro Leu His Ser Ala Ala Pro Gly Pro Phe Ser Ala Ser Glu Ala			
1460	1465	1470	
Pro Tyr Pro Ala Pro Pro Ala Ser Pro Ala Pro Tyr Ala Leu Pro Val			
1475	1480	1485	
Ala Glu Leu Glu Asp Val Lys Asp Val Pro Ala Ala Ile Ser Thr Ser			
1490	1495	1500	
Glu Ala Ala Pro Tyr Ala Pro Pro Ser Gly Leu Glu Ser Phe Phe Ser			
1505	1510	1515	1520
Asn Cys Lys Ser Leu Pro Glu Ala Pro Leu Asp Val Ala Pro Glu Ala			
1525	1530	1535	
Leu Gly Pro Leu Glu Asn Ser Phe Leu Asp Gly Ser Arg Gly Leu Ser			
1540	1545	1550	
His Leu Gly Gln Val Glu Pro Val Pro Trp Ala Asp Ala Phe Ala Gly			
1555	1560	1565	
Pro Glu Asp Asp Leu Asp Leu Gly Pro Phe Ser Leu Pro Glu Leu Pro			
1570	1575	1580	
Leu Gln Thr Lys Asp Ala Ala Asp Gly Glu Ala Glu Pro Val Glu Glu			
1585	1590	1595	1600
Ser Leu Ala Pro Pro Glu Glu Met Pro Pro Gly Ala Pro Arg Glu Leu			
1605	1610	1615	
Glu Pro Glu Pro Ser Gly Glu Pro Lys Leu Asp Val Ala Leu Glu Ala			
1620	1625	1630	

Ala Val Glu Ala Glu Thr Val Pro Glu Glu Arg Ala Arg Gly Asp Pro
 1635 1640 1645
 Asp Ser Ser Val Glu Pro Ala Pro Val Pro Pro Glu Gln Leu Gly Ser
 1650 1655 1660
 Gly Asp Pro Ser Leu Cys Ala Pro Asp Gly Pro Ala Pro Asn Thr Val
 1665 1670 1675 1680
 Ala Gln Ala Gln Ala Ala Asp Gly Ala Gly Pro Glu Asp Asp Thr Glu
 1685 1690 1695
 Ala Ser Arg Ala Ala Ala Pro Ala Glu Gly Pro Pro Gly Gln Pro Glu
 1700 1705 1710
 Ala Ala Glu Pro Lys Pro Thr Ala Glu Ala Pro Lys Ala Pro Arg Glu
 1715 1720 1725
 Ile Pro Gln Arg Met Thr Arg Asn Arg Ala Gln Met Leu Ala Asn Gln
 1730 1735 1740
 Ser Lys Gln Gly Pro Pro Pro Ser Glu Lys Glu Cys Ala Pro Thr Pro
 1745 1750 1755 1760
 Ala Pro Val Thr Arg Ala Lys Ala Arg Gly Ser Glu Asp Asp Asp Ala
 1765 1770 1775
 Gln Ala Gln His Pro Arg Lys Arg Arg Phe Gln Arg Ser Thr Gln Gln
 1780 1785 1790
 Leu Gln Leu Asn Thr Ser Thr Gln Gln Thr Arg Glu Val Ile Gln Gln
 1795 1800 1805
 Thr Leu Ala Ala Ile Val Asp Ala Ile Lys Leu Asp Ala Ile Glu Pro
 1810 1815 1820
 Tyr His Ser Asp Arg Ala Asn Pro Tyr Phe Glu Tyr Leu Gln Ile Arg
 1825 1830 1835 1840
 Lys Lys Ile Glu Glu Lys Arg Lys Ile Leu Cys Cys Ile Thr Pro Gln
 1845 1850 1855
 Ala Pro Gln Cys Tyr Ala Glu Tyr Val Thr Tyr Thr Gly Ser Tyr Leu
 1860 1865 1870
 Leu Asp Gly Lys Pro Leu Ser Lys Leu His Ile Pro Val Ile Ala Pro
 1875 1880 1885

Pro Pro Ser Leu Ala Glu Pro Leu Lys Glu Leu Phe Arg Gln Gln Glu
 1890 1895 1900

Ala Val Arg Gly Lys Leu Arg Leu Gln His Ser Ile Glu Arg Glu Lys
 1905 1910 1915 1920

Leu Ile Val Ser Cys Glu Gln Glu Ile Leu Arg Val His Cys Arg Ala
 1925 1930 1935

Ala Arg Thr Ile Ala Asn Gln Ala Val Pro Phe Ser Ala Cys Thr Met
 1940 1945 1950

Leu Leu Asp Ser Glu Val Tyr Asn Met Pro Leu Glu Ser Gln Gly Asp
 1955 1960 1965

Glu Asn Lys Ser Val Arg Asp Arg Phe Asn Ala Arg Gln Phe Ile Ser
 1970 1975 1980

Trp Leu Gln Asp Val Asp Asp Lys Tyr Asp Arg Met Lys Val Cys Leu
 1985 1990 1995 2000

Leu Met Arg Gln Gln His Glu Ala Ala Ala Leu Asn Ala Val Gln Arg
 2005 2010 2015

Met Glu Trp Gln Leu Lys Val Gln Glu Leu Asp Pro Ala Gly His Lys
 2020 2025 2030

Ser Leu Cys Val Asn Glu Val Pro Ser Phe Tyr Val Pro Met Val Asp
 2035 2040 2045

Val Asn Asp Asp Phe Val Leu Leu Pro Ala
 2050 2055

<210> 21

<211> 1749

<212> DNA

<213> Homo sapiens

<400> 21

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 aaggaagccg gtgagaagcc tcggggagca cagatggtgg acaaggctgg ctggatcaag 180
 aagagcagtg ggggcctcct gggtttcttg aaagaccgat atctgctcct ctgccaggcc 240
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 agctatgaga agtgccagga ccttcgtgcc ctcccaagc gaaaacaccg ctttatcctg 360
 ctgcgatccc cagggaacaa ggtcagcgac atcaaattcc aggcacccac cggggaggag 420
 aaggaatcct ggatcaaagc cctcaatgaa gggattaacc gaggcaaaaa caaggctttc 480

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atcaagtcca tcaaggccca gccctgctga gaaatgtgct tctgcttcta cagcaatggc 1680
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cttcctact 1749

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<210> 22

<211> 492

<212> PRT

<213> Homo sapiens

<400> 22

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Met Glu Glu Glu Gly Val Lys Glu Ala Gly Glu Lys Pro Arg Gly Ala
  1                      5                      10                      15

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```

Gln Met Val Asp Lys Ala Gly Trp Ile Lys Lys Ser Ser Gly Gly Leu
      20                      25                      30

```

```

Leu Gly Phe Trp Lys Asp Arg Tyr Leu Leu Leu Cys Gln Ala Gln Leu
      35                      40                      45

```

```

Leu Val Tyr Glu Asn Glu Asp Asp Gln Lys Cys Val Glu Thr Val Glu
      50                      55                      60

```

```

Leu Gly Ser Tyr Glu Lys Cys Gln Asp Leu Arg Ala Leu Leu Lys Arg
      65                      70                      75                      80

```

```

Lys His Arg Phe Ile Leu Leu Arg Ser Pro Gly Asn Lys Val Ser Asp
      85                      90                      95

```

Ile	Lys	Phe	Gln	Ala	Pro	Thr	Gly	Glu	Glu	Lys	Glu	Ser	Trp	Ile	Lys	100	105	110
Ala	Leu	Asn	Glu	Gly	Ile	Asn	Arg	Gly	Lys	Asn	Lys	Ala	Phe	Asp	Glu	115	120	125
Val	Lys	Val	Asp	Lys	Ser	Cys	Ala	Leu	Glu	His	Val	Thr	Arg	Asp	Arg	130	135	140
Val	Arg	Gly	Gly	Gln	Arg	Arg	Arg	Pro	Pro	Thr	Arg	Val	His	Leu	Lys	145	150	155
Glu	Val	Ala	Ser	Ala	Ala	Ser	Asp	Gly	Leu	Leu	Arg	Leu	Asp	Leu	Asp	165	170	175
Val	Pro	Asp	Ser	Gly	Pro	Pro	Val	Phe	Ala	Pro	Ser	Asn	His	Val	Ser	180	185	190
Glu	Ala	Gln	Pro	Arg	Glu	Thr	Pro	Arg	Pro	Leu	Met	Pro	Pro	Thr	Lys	195	200	205
Pro	Phe	Leu	Ala	Pro	Glu	Thr	Thr	Ser	Pro	Gly	Asp	Arg	Val	Glu	Thr	210	215	220
Pro	Val	Gly	Glu	Arg	Ala	Pro	Thr	Pro	Val	Ser	Ala	Ser	Ser	Glu	Val	225	230	235
Ser	Pro	Glu	Ser	Gln	Glu	Asp	Ser	Glu	Thr	Pro	Ala	Glu	Glu	Asp	Ser	245	250	255
Gly	Ser	Glu	Gln	Pro	Pro	Asn	Ser	Val	Leu	Pro	Asp	Lys	Leu	Lys	Val	260	265	270
Ser	Trp	Glu	Asn	Pro	Ser	Pro	Gln	Glu	Ala	Pro	Ala	Ala	Glu	Ser	Ala	275	280	285
Glu	Pro	Ser	Gln	Ala	Pro	Cys	Ser	Glu	Thr	Ser	Glu	Ala	Ala	Pro	Arg	290	295	300
Glu	Gly	Gly	Lys	Pro	Pro	Thr	Pro	Pro	Pro	Lys	Ile	Leu	Ser	Glu	Glu	305	310	315
His	Leu	Lys	Ala	Ser	Met	Gly	Glu	Met	Gln	Ala	Ser	Gly	Pro	Pro	Ala	325	330	335
Pro	Gly	Thr	Val	Lys	Gly	Leu	Ser	Gln	Met	Ala	Arg	Met	Glu	Gly	Leu	340	345	350

Ser Ile Ala Lys His Ser Lys Ala Glu Gly Thr Gln Arg Thr Ser Pro
 355 360 365

Lys Asp Ala Leu Thr His Gln Ala Leu Pro Pro Trp Asp Leu Pro Pro
 370 375 380

Gln Phe His His Arg Cys Ser Ser Leu Gly Asp Leu Leu Gly Glu Gly
 385 390 395 400

Pro Arg His Pro Leu Gln Pro Arg Gln Arg Leu Tyr Arg Ala Gln Leu
 405 410 415

Glu Val Lys Val Ala Ser Glu Gln Thr Glu Lys Leu Leu Asn Lys Val
 420 425 430

Leu Gly Ser Glu Pro Ala Pro Val Ser Ala Glu Thr Leu Leu Ser Gln
 435 440 445

Ala Val Glu Gln Leu Arg Gln Ala Thr Gln Val Leu Gln Glu Met Arg
 450 455 460

Asp Leu Gly Glu Leu Ser Gln Glu Ala Pro Gly Leu Arg Glu Lys Arg
 465 470 475 480

Lys Glu Leu Val Thr Leu Tyr Arg Arg Ser Ala Pro
 485 490

<210> 23

<211> 1491

<212> DNA

<213> Homo sapiens

<400> 23

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tgcattcttc tggcctggct gggcgctctt gcaggcagct ggctggtgta cgtgcactac 180
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```

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caaccctccc tcaaggagag tcctccaagg gggtttgtta ctctgaagaa cgtaatgtca 1440
ataaacagct tttatgtaat gccaggggct gagcaccctg agcccccatc a 1491

```

<210> 24

<211> 431

<212> PRT

<213> Homo sapiens

<400> 24

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Met Arg Arg Leu Arg Arg Leu Ala His Leu Val Leu Phe Cys Pro Phe
  1              5              10              15

```

```

Ser Lys Arg Leu Gln Gly Arg Leu Pro Gly Leu Arg Val Arg Cys Ile
      20              25              30

```

```

Phe Leu Ala Trp Leu Gly Val Phe Ala Gly Ser Trp Leu Val Tyr Val
      35              40              45

```

```

His Tyr Ser Ser Tyr Ser Glu Arg Cys Arg Gly His Val Cys Gln Val
      50              55              60

```

```

Val Ile Cys Asp Gln Tyr Arg Lys Gly Ile Ile Ser Gly Ser Val Cys
      65              70              75              80

```

```

Gln Asp Leu Cys Glu Leu His Met Val Glu Trp Arg Thr Cys Leu Ser
      85              90              95

```

```

Val Ala Pro Gly Gln Gln Val Tyr Ser Gly Leu Trp Arg Asp Lys Asp
      100              105              110

```

```

Val Thr Ile Lys Cys Gly Ile Glu Glu Thr Leu Asp Ser Lys Ala Arg
      115              120              125

```

```

Ser Asp Ala Ala Pro Arg Arg Glu Leu Val Leu Phe Asp Lys Pro Thr
      130              135              140

```

```

Arg Gly Thr Ser Ile Lys Glu Phe Arg Glu Met Thr Leu Gly Phe Leu
      145              150              155              160

```

Lys	Ala	Asn	Leu	Gly	Asp	Leu	Pro	Ser	Leu	Pro	Ala	Leu	Val	Gly	Gln	165	170	175	
Val	Leu	Leu	Met	Ala	Asp	Phe	Asn	Lys	Asp	Asn	Arg	Val	Ser	Leu	Ala	180	185	190	
Glu	Ala	Lys	Ser	Val	Trp	Ala	Leu	Leu	Gln	Arg	Asn	Glu	Phe	Leu	Leu	195	200	205	
Leu	Leu	Ser	Leu	Gln	Glu	Lys	Glu	His	Ala	Ser	Arg	Leu	Leu	Gly	Tyr	210	215	220	
Cys	Gly	Asp	Leu	Tyr	Leu	Thr	Glu	Gly	Val	Pro	His	Gly	Ala	Trp	His	225	230	235	240
Ala	Ala	Ala	Leu	Pro	Pro	Leu	Leu	Arg	Pro	Leu	Leu	Pro	Pro	Ala	Leu	245	250	255	
Gln	Gly	Ala	Leu	Gln	Gln	Trp	Leu	Gly	Pro	Ala	Trp	Pro	Trp	Arg	Ala	260	265	270	
Lys	Ile	Ala	Ile	Gly	Leu	Leu	Glu	Phe	Val	Glu	Glu	Leu	Phe	His	Gly	275	280	285	
Ser	Tyr	Gly	Thr	Phe	Tyr	Met	Cys	Glu	Thr	Thr	Leu	Ala	Asn	Val	Gly	290	295	300	
Tyr	Thr	Ala	Thr	Tyr	Asp	Phe	Lys	Met	Ala	Asp	Leu	Gln	Gln	Val	Ala	305	310	315	320
Pro	Glu	Ala	Thr	Val	Arg	Arg	Phe	Leu	Gln	Gly	Arg	Arg	Cys	Glu	His	325	330	335	
Ser	Thr	Asp	Cys	Thr	Tyr	Gly	Arg	Asp	Cys	Arg	Ala	Pro	Cys	Asp	Arg	340	345	350	
Leu	Met	Arg	Gln	Cys	Lys	Gly	Asp	Leu	Ile	Gln	Pro	Asn	Leu	Ala	Lys	355	360	365	
Val	Cys	Ala	Leu	Leu	Arg	Gly	Tyr	Leu	Leu	Pro	Gly	Ala	Pro	Ala	Asp	370	375	380	
Leu	Arg	Glu	Glu	Leu	Gly	Thr	Gln	Leu	Arg	Thr	Cys	Thr	Thr	Leu	Ser	385	390	395	400
Gly	Leu	Ala	Ser	Gln	Val	Glu	Ala	His	His	Ser	Leu	Val	Leu	Ser	His	405	410	415	

Leu Lys Thr Leu Leu Trp Lys Lys Ile Ser Asn Thr Lys Tyr Ser
 420 425 430

<210> 25
 <211> 1062
 <212> DNA
 <213> Homo sapiens

<400> 25
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 cctatgaccg gtgtgtggct atctgcaagc ccctgcacta catggtgatc atgaacccca 420
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<210> 26
 <211> 314
 <212> PRT
 <213> Homo sapiens

<400> 26
 Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly
 1 5 10 15
 Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu
 20 25 30
 Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val
 35 40 45
 Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60

His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln
 65 70 75 80

Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly
 85 90 95

Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys
 100 105 110

Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu
 130 135 140

Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser
 145 150 155 160

Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His
 165 170 175

Phe Leu Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr
 180 185 190

Val Ala Ile Glu Gly Thr Val Phe Val Leu Lys Lys Gly Val Val Leu
 195 200 205

Ser Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala
 210 215 220

Val Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile
 245 250 255

Tyr Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Gly Met
 260 265 270

Phe Leu Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu
 275 280 285

Ile Tyr Thr Leu Arg Asn Arg Glu Val Lys Gly Ala Leu Gly Arg Leu
 290 295 300

Leu Leu Gly Lys Arg Glu Leu Gly Lys Glu
 305 310

<210> 27
 <211> 1062
 <212> DNA
 <213> Homo sapiens

<400> 27
 tagagatgga tggaaccaat ggcagcaccc aaaccattt catcctactg ggattctctg 60
 accgacccca tctggagagg atcctctttg tggtcaccc gatcgcgtag ctcttgaccc 120
 tcgtaggcaa caccaccatc atcctggtgt cccggctgga ccccccacctc cacaccccca 180
 tgtacttctt cctcgccac ctttccttcc tggacctcag tttcaccacc agctccatcc 240
 cccagctgct ctacaacctt aatggatgtg acaagaccat cagctacatg ggctgtgcc 300
 tccagctctt cctgttcctg ggtctgggtg gtgtggagt cctgcttctg gctgtcatgg 360
 cctatgaccg gtgtgtggct atctgcaagc ccctgcacta catggtgatc atgaacccca 420
 ggctctgccg gggcttgggtg tcagtgcact ggggctgtgg ggtggccaac tccttggcca 480
 tgtctcctgt gacctgcgc ttaccccgct gtgggcacca cgaggtggac cacttcctgc 540
 gtgagatgcc cgccctgatc cggatggcct gcgtcagcac tgtggccatc gacggcaccg 600
 tctttgtcct ggcggtgggt gttgtgctgt ccccttgggt gtttatcctg ctctcttaca 660
 gctacattgt gagggctgtg ttacaaattc ggtcagcatc aggaaggcag aaggccttcg 720
 gcacctgcgg ctcccatctc actgtggtct cccttttcta tggaaacatc atctacatgt 780
 acatgcagcc aggagccagt tcttcccagg accagggcat gttcctcatg ctctcttaca 840
 acattgtcac cccctcctc aatcctctca tctacacct cagaaacaga gaggtgaagg 900
 gggcactggg aaggttgctt ttggggaaga gagagctagg aaaggagtaa aggcattctc 960
 acctgacttc acttccatcc agggccactg gcagcatctg gaacggctga attccagctg 1020
 atattagccc acgactccca acttgcttct ttctggactt tt 1062

<210> 28
 <211> 314
 <212> PRT
 <213> Homo sapiens

<400> 28
 Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly
 1 5 10 15
 Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu
 20 25 30
 Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val
 35 40 45
 Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60
 His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln
 65 70 75 80

Leu	Leu	Tyr	Asn	Leu	Asn	Gly	Cys	Asp	Lys	Thr	Ile	Ser	Tyr	Met	Gly	85	90	95	
Cys	Ala	Ile	Gln	Leu	Phe	Leu	Phe	Leu	Gly	Leu	Gly	Gly	Val	Glu	Cys	100	105	110	
Leu	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Cys	Val	Ala	Ile	Cys	Lys	115	120	125	
Pro	Leu	His	Tyr	Met	Val	Ile	Met	Asn	Pro	Arg	Leu	Cys	Arg	Gly	Leu	130	135	140	
Val	Ser	Val	Thr	Trp	Gly	Cys	Gly	Val	Ala	Asn	Ser	Leu	Ala	Met	Ser	145	150	155	160
Pro	Val	Thr	Leu	Arg	Leu	Pro	Arg	Cys	Gly	His	His	Glu	Val	Asp	His	165	170	175	
Phe	Leu	Arg	Glu	Met	Pro	Ala	Leu	Ile	Arg	Met	Ala	Cys	Val	Ser	Thr	180	185	190	
Val	Ala	Ile	Asp	Gly	Thr	Val	Phe	Val	Leu	Ala	Val	Gly	Val	Val	Leu	195	200	205	
Ser	Pro	Leu	Val	Phe	Ile	Leu	Leu	Ser	Tyr	Ser	Tyr	Ile	Val	Arg	Ala	210	215	220	
Val	Leu	Gln	Ile	Arg	Ser	Ala	Ser	Gly	Arg	Gln	Lys	Ala	Phe	Gly	Thr	225	230	235	240
Cys	Gly	Ser	His	Leu	Thr	Val	Val	Ser	Leu	Phe	Tyr	Gly	Asn	Ile	Ile	245	250	255	
Tyr	Met	Tyr	Met	Gln	Pro	Gly	Ala	Ser	Ser	Ser	Gln	Asp	Gln	Gly	Met	260	265	270	
Phe	Leu	Met	Leu	Phe	Tyr	Asn	Ile	Val	Thr	Pro	Leu	Leu	Asn	Pro	Leu	275	280	285	
Ile	Tyr	Thr	Leu	Arg	Asn	Arg	Glu	Val	Lys	Gly	Ala	Leu	Gly	Arg	Leu	290	295	300	
Leu	Leu	Gly	Lys	Arg	Glu	Leu	Gly	Lys	Glu							305	310		

<210> 29

<211> 624
 <212> DNA
 <213> Homo sapiens

<400> 29
 ctttgagctt ctctgactgc tgaccactga cccaccgact tgatgacagc accctcgtgt 60
 gccttcccag ttcaaatccg gcagccctca gtcagcggcc tctcgagat aacaaaaagc 120
 ctgtatatca gcaatggtgt ggccgccaac aacaagctca tgctgtctag caaccagatc 180
 accatggtca tcaatgtctc agtggaggta gtgaacacct tgtatgagga tatccagtac 240
 atgcaggtac ctgtggctga cccccctaac tcacgtctct gtgacttctt tgaccctatt 300
 gctgaccata tccacagcgt ggagatgaag cagggccgta ctttgctgca ctgtgctgct 360
 ggtgtgagcc gctcagctgc cctgtgcctc gcctacctca tgaagtacca cgccatgtcc 420
 ctgctggacg cccacacgtg gaccaagtca tgccggccca tcatccgacc caacagcggc 480
 ttttgggagc agctcatcca ctatgagttc caattgtttg gcaagaacac tgtgcacatg 540
 gtcagttccc cagtgggaat gatccctgac atctatgaga aggaagtccg tttgatgatt 600
 ccactgtgag ccattcccacg agcc 624

<210> 30
 <211> 188
 <212> PRT
 <213> Homo sapiens

<400> 30
 Met Thr Ala Pro Ser Cys Ala Phe Pro Val Gln Ile Arg Gln Pro Ser
 1 5 10 15
 Val Ser Gly Leu Ser Gln Ile Thr Lys Ser Leu Tyr Ile Ser Asn Gly
 20 25 30
 Val Ala Ala Asn Asn Lys Leu Met Leu Ser Ser Asn Gln Ile Thr Met
 35 40 45
 Val Ile Asn Val Ser Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile
 50 55 60
 Gln Tyr Met Gln Val Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys
 65 70 75 80
 Asp Phe Phe Asp Pro Ile Ala Asp His Ile His Ser Val Glu Met Lys
 85 90 95
 Gln Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala
 100 105 110
 Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu
 115 120 125

Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn
 130 135 140

Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly
 145 150 155 160

Lys Asn Thr Val His Met Val Ser Ser Pro Val Gly Met Ile Pro Asp
 165 170 175

Ile Tyr Glu Lys Glu Val Arg Leu Met Ile Pro Leu
 180 185

<210> 31
 <211> 1034
 <212> PRT
 <213> Mus musculus

<400> 31
 Met Pro Leu Cys Pro Leu Leu Leu Leu Ala Leu Gly Leu Arg Leu Thr
 1 5 10 15

Gly Thr Leu Asn Ser Asn Asp Pro Asn Val Cys Thr Phe Trp Glu Ser
 20 25 30

Phe Thr Thr Thr Thr Lys Glu Ser His Leu Arg Pro Phe Ser Leu Leu
 35 40 45

Pro Ala Glu Ser Cys His Arg Pro Trp Glu Asp Pro His Thr Cys Ala
 50 55 60

Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val Lys Met
 65 70 75 80

Asp Ser Arg Pro Arg Leu Gln Cys Cys Arg Gly Tyr Tyr Glu Ser Arg
 85 90 95

Gly Ala Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly Arg Cys
 100 105 110

Val Ala Pro Asn Gln Cys Gln Cys Ala Pro Gly Trp Arg Gly Gly Asp
 115 120 125

Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys Asp Lys
 130 135 140

Phe Cys His Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser Gly Ala
 145 150 155 160

Cys	Phe	Cys	Pro	Ser	Gly	Leu	Gln	Pro	Pro	Asn	Cys	Leu	Gln	Pro	Cys		
				165				170						175			
Pro	Ala	Gly	His	Tyr	Gly	Pro	Ala	Cys	Gln	Phe	Asp	Cys	Gln	Cys	Tyr		
			180					185					190				
Gly	Ala	Ser	Cys	Asp	Pro	Gln	Asp	Gly	Ala	Cys	Phe	Cys	Pro	Pro	Gly		
		195					200					205					
Arg	Ala	Gly	Pro	Ser	Cys	Asn	Val	Pro	Cys	Ser	Gln	Gly	Thr	Asp	Gly		
	210					215					220						
Phe	Phe	Cys	Pro	Arg	Thr	Tyr	Pro	Cys	Gln	Asn	Gly	Gly	Val	Pro	Gln		
225					230					235					240		
Gly	Ser	Gln	Gly	Ser	Cys	Ser	Cys	Pro	Pro	Gly	Trp	Met	Gly	Val	Ile		
				245				250						255			
Cys	Ser	Leu	Pro	Cys	Pro	Glu	Gly	Phe	His	Gly	Pro	Asn	Cys	Thr	Gln		
		260						265					270				
Glu	Cys	Arg	Cys	His	Asn	Gly	Gly	Leu	Cys	Asp	Arg	Phe	Thr	Gly	Gln		
		275					280					285					
Cys	His	Cys	Ala	Pro	Gly	Tyr	Ile	Gly	Asp	Arg	Cys	Gln	Glu	Glu	Cys		
	290					295					300						
Pro	Val	Gly	Arg	Phe	Gly	Gln	Asp	Cys	Ala	Glu	Thr	Cys	Asp	Cys	Ala		
305					310					315					320		
Pro	Gly	Ala	Arg	Cys	Phe	Pro	Ala	Asn	Gly	Ala	Cys	Leu	Cys	Glu	His		
				325					330					335			
Gly	Phe	Thr	Gly	Asp	Arg	Cys	Thr	Glu	Arg	Leu	Cys	Pro	Asp	Gly	Arg		
			340					345					350				
Tyr	Gly	Leu	Ser	Cys	Gln	Glu	Pro	Cys	Thr	Cys	Asp	Pro	Glu	His	Ser		
		355					360					365					
Leu	Ser	Cys	His	Pro	Met	His	Gly	Glu	Cys	Ser	Cys	Gln	Pro	Gly	Trp		
	370					375						380					
Ala	Gly	Leu	His	Cys	Asn	Glu	Ser	Cys	Pro	Gln	Asp	Thr	His	Gly	Pro		
385					390					395					400		
Gly	Cys	Gln	Glu	His	Cys	Leu	Cys	Leu	His	Gly	Gly	Leu	Cys	Leu	Ala		
				405					410						415		

His Pro Gln Asp Gly Ser Cys Ile Cys Thr Pro Gly Trp Thr Gly Pro
 675 680 685

Asn Cys Leu Glu Gly Cys Pro Pro Arg Met Phe Gly Val Asn Cys Ser
 690 695 700

Gln Leu Cys Gln Cys Asp Leu Gly Glu Met Cys His Pro Gln Thr Gly
 705 710 715 720

Ala Cys Val Cys Pro Pro Gly His Ser Gly Ala Asp Cys Lys Met Gly
 725 730 735

Ser Gln Glu Ser Phe Thr Ile Met Pro Thr Ser Pro Val Thr His Asn
 740 745 750

Ser Leu Gly Ala Val Ile Gly Ile Ala Val Leu Gly Thr Leu Val Val
 755 760 765

Ala Leu Ile Ala Leu Phe Ile Gly Tyr Arg Gln Trp Gln Lys Gly Lys
 770 775 780

Glu His Glu His Leu Ala Val Ala Tyr Ser Thr Gly Arg Leu Asp Gly
 785 790 795 800

Ser Asp Tyr Val Met Pro Asp Val Ser Pro Ser Tyr Ser His Tyr Tyr
 805 810 815

Ser Asn Pro Ser Tyr His Thr Leu Ser Gln Cys Ser Pro Asn Pro Pro
 820 825 830

Pro Pro Asn Lys Val Pro Gly Ser Gln Leu Phe Val Ser Ser Gln Ala
 835 840 845

Pro Glu Arg Pro Ser Arg Ala His Gly Arg Glu Asn His Val Thr Leu
 850 855 860

Pro Ala Asp Trp Lys His Arg Arg Glu Pro His Glu Arg Gly Ala Ser
 865 870 875 880

His Leu Asp Arg Ser Tyr Ser Cys Ser Tyr Ser His Arg Asn Gly Pro
 885 890 895

Gly Pro Phe Cys His Lys Gly Pro Ile Ser Glu Glu Gly Leu Gly Ala
 900 905 910

Ser Val Met Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile Arg Asp
 915 920 925

Leu Pro Ser Leu Pro Gly Glu Pro Arg Glu Ser Gly Tyr Val Glu Met
 930 935 940

Lys Gly Pro Pro Ser Val Ser Pro Pro Arg Gln Ser Leu His Leu Arg
 945 950 955 960

Asp Arg Gln Gln Arg Gln Leu Gln Pro Gln Arg Asp Ser Gly Thr Tyr
 965 970 975

Glu Gln Pro Ser Pro Leu Ser His Asn Glu Glu Ser Leu Gly Ser Thr
 980 985 990

Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly Gln Tyr Asp Ser Pro Lys
 995 1000 1005

Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val Arg His Pro
 1010 1015 1020

Pro Ser Pro Pro Ser Arg Arg Gln Asp Arg
 1025 1030

<210> 32

<211> 1034

<212> PRT

<213> Mus musculus

<400> 32

Met Pro Leu Cys Pro Leu Leu Leu Leu Ala Leu Gly Leu Arg Leu Thr
 1 5 10 15

Gly Thr Leu Asn Ser Asn Asp Pro Asn Val Cys Thr Phe Trp Glu Ser
 20 25 30

Phe Thr Thr Thr Thr Lys Glu Ser His Leu Arg Pro Phe Ser Leu Leu
 35 40 45

Pro Ala Glu Ser Cys His Arg Pro Trp Glu Asp Pro His Thr Cys Ala
 50 55 60

Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val Lys Met
 65 70 75 80

Asp Ser Arg Pro Arg Leu Gln Cys Cys Arg Gly Tyr Tyr Glu Ser Arg
 85 90 95

Gly Ala Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly Arg Cys

100	105	110
Val Ala Pro Asn Gln Cys Gln Cys Ala Pro Gly Trp Arg Gly Gly Asp		
115	120	125
Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys Asp Lys		
130	135	140
Phe Cys His Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser Gly Thr		
145	150	155
Cys Phe Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln Pro Cys		
	165	170
Pro Ala Gly His Tyr Gly Pro Ala Cys Gln Phe Asp Cys Gln Cys Tyr		
	180	185
Gly Ala Ser Cys Asp Pro Gln Asp Gly Ala Cys Phe Cys Pro Pro Gly		
	195	200
Arg Ala Gly Pro Ser Cys Asn Val Pro Cys Ser Gln Gly Thr Asp Gly		
	210	215
Phe Phe Cys Pro Arg Thr Tyr Pro Cys Gln Asn Gly Gly Val Pro Gln		
225	230	235
Gly Ser Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Gly Val Ile		
	245	250
Cys Ser Leu Pro Cys Pro Glu Gly Phe His Gly Pro Asn Cys Thr Gln		
	260	265
Glu Cys Arg Cys His Asn Gly Gly Leu Cys Asp Arg Phe Thr Gly Gln		
	275	280
Cys His Cys Ala Pro Gly Tyr Ile Gly Asp Arg Cys Gln Glu Glu Cys		
	290	295
Pro Val Gly Arg Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp Cys Ala		
305	310	315
Pro Gly Ala Arg Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys Glu His		
	325	330
Gly Phe Thr Gly Asp Arg Cys Thr Glu Arg Leu Cys Pro Asp Gly Arg		
	340	345
Tyr Gly Leu Ser Cys Gln Glu Pro Cys Thr Cys Asp Pro Glu His Ser		

355		360		365
Leu Ser Cys His Pro Met His Gly Glu Cys Ser Cys Gln Pro Gly Trp				
370		375		380
Ala Gly Leu His Cys Asn Glu Ser Cys Pro Gln Asp Thr His Gly Pro				
385		390		395
				400
Gly Cys Gln Glu His Cys Leu Cys Leu His Gly Gly Leu Cys Leu Ala				
	405		410	415
Asp Ser Gly Leu Cys Arg Cys Ala Pro Gly Tyr Thr Gly Pro His Cys				
	420		425	430
Ala Asn Leu Cys Pro Pro Asp Thr Tyr Gly Ile Asn Cys Ser Ser Arg				
	435		440	445
Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly Thr Cys				
	450		455	460
Ile Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro Cys Pro				
465		470		475
				480
Leu Gly Thr Trp Gly Phe Asn Cys Asn Ala Ser Cys Gln Cys Ala His				
	485		490	495
Asp Gly Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr Pro Gly				
	500		505	510
Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln Phe Gly				
	515		520	525
Glu Gly Cys Ala Ser Val Cys Asp Cys Asp His Ser Asp Gly Cys Asp				
	530		535	540
Pro Val His Gly Gln Cys Arg Cys Gln Ala Gly Trp Met Gly Thr Arg				
545		550		555
				560
Cys His Leu Pro Cys Pro Glu Gly Phe Trp Gly Ala Asn Cys Ser Asn				
	565		570	575
Thr Cys Thr Cys Lys Asn Gly Gly Thr Cys Val Ser Glu Asn Gly Asn				
	580		585	590
Cys Val Cys Ala Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg Pro Cys				
	595		600	605
Pro Pro Gly Arg Tyr Gly Lys Arg Cys Val Gln Cys Lys Cys Asn Asn				

610		615		620															
Asn	His	Ser	Ser	Cys	His	Pro	Ser	Asp	Gly	Thr	Cys	Ser	Cys	Leu	Ala				
625					630					635					640				
Gly	Trp	Thr	Gly	Pro	Asp	Cys	Ser	Glu	Ala	Cys	Pro	Pro	Gly	His	Trp				
				645					650					655					
Gly	Leu	Lys	Cys	Ser	Gln	Leu	Cys	Gln	Cys	His	His	Gly	Gly	Thr	Cys				
			660					665					670						
His	Pro	Gln	Asp	Gly	Ser	Cys	Ile	Cys	Thr	Pro	Gly	Trp	Thr	Gly	Pro				
		675					680					685							
Asn	Cys	Leu	Glu	Gly	Cys	Pro	Pro	Arg	Met	Phe	Gly	Val	Asn	Cys	Ser				
		690				695					700								
Gln	Leu	Cys	Gln	Cys	Asp	Leu	Gly	Glu	Met	Cys	His	Pro	Glu	Thr	Gly				
705					710					715					720				
Ala	Cys	Val	Cys	Pro	Pro	Gly	His	Ser	Gly	Ala	Asp	Cys	Lys	Met	Gly				
				725					730					735					
Ser	Gln	Glu	Ser	Phe	Thr	Ile	Met	Pro	Thr	Ser	Pro	Val	Thr	His	Asn				
		740						745					750						
Ser	Leu	Gly	Ala	Val	Ile	Gly	Ile	Ala	Val	Leu	Gly	Thr	Leu	Val	Val				
		755					760					765							
Ala	Leu	Ile	Ala	Leu	Phe	Ile	Gly	Tyr	Arg	Gln	Trp	Gln	Lys	Gly	Lys				
		770				775					780								
Glu	His	Glu	His	Leu	Ala	Val	Ala	Tyr	Ser	Thr	Gly	Arg	Leu	Asp	Gly				
785					790					795					800				
Ser	Asp	Tyr	Val	Met	Pro	Asp	Val	Ser	Pro	Ser	Tyr	Ser	His	Tyr	Tyr				
			805						810					815					
Ser	Asn	Pro	Ser	Tyr	His	Thr	Leu	Ser	Gln	Cys	Ser	Pro	Asn	Pro	Pro				
		820						825					830						
Pro	Pro	Asn	Lys	Val	Pro	Gly	Ser	Gln	Leu	Phe	Val	Ser	Ser	Gln	Ala				
		835					840					845							
Pro	Glu	Arg	Pro	Ser	Arg	Ala	His	Gly	Arg	Glu	Asn	His	Val	Thr	Leu				
		850				855					860								
Pro	Ala	Asp	Trp	Lys	His	Arg	Arg	Glu	Pro	His	Glu	Arg	Gly	Ala	Ser				

865		870		875		880
His Leu Asp Arg Ser Tyr Ser Cys Ser Tyr Ser His Arg Asn Gly Pro						
	885		890		895	
Gly Pro Phe Cys His Lys Gly Pro Ile Ser Glu Glu Gly Leu Gly Ala						
	900		905		910	
Ser Val Met Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile Arg Asp						
	915		920		925	
Leu Pro Ser Leu Pro Gly Glu Pro Arg Glu Ser Gly Tyr Val Glu Met						
	930		935		940	
Lys Gly Pro Pro Ser Val Ser Pro Pro Arg Gln Ser Leu His Leu Arg						
	945		950		955	960
Asp Arg Gln Gln Arg Gln Leu Gln Pro Gln Arg Asp Ser Gly Thr Tyr						
	965		970		975	
Glu Gln Pro Ser Pro Leu Ser His Asn Glu Glu Ser Leu Gly Ser Thr						
	980		985		990	
Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly His Tyr Asp Ser Pro Lys						
	995		1000		1005	
Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val Arg His Pro						
	1010		1015		1020	
Pro Ser Pro Pro Ser Arg Arg Gln Asp Arg						
	1025		1030			
<210> 33						
<211> 1140						
<212> PRT						
<213> Homo sapiens						
<400> 33						
Met Val Ile Ser Leu Asn Ser Cys Leu Ser Phe Ile Cys Leu Leu Leu						
1		5		10		15
Cys His Trp Ile Gly Thr Ala Ser Pro Leu Asn Leu Glu Asp Pro Asn						
	20		25		30	
Val Cys Ser His Trp Glu Ser Tyr Ser Val Thr Val Gln Glu Ser Tyr						
	35		40		45	

Pro His Pro Phe Asp Gln Ile Tyr Tyr Thr Ser Cys Thr Asp Ile Leu
 50 55 60

Asn Trp Phe Lys Cys Thr Arg His Arg Val Ser Tyr Arg Thr Ala Tyr
 65 70 75 80

Arg His Gly Glu Lys Thr Met Tyr Arg Arg Lys Ser Gln Cys Cys Pro
 85 90 95

Gly Phe Tyr Glu Ser Gly Glu Met Cys Val Pro His Cys Ala Asp Lys
 100 105 110

Cys Val His Gly Arg Cys Ile Ala Pro Asn Thr Cys Gln Cys Glu Pro
 115 120 125

Gly Trp Gly Gly Thr Asn Cys Ser Ser Ala Cys Asp Gly Asp His Trp
 130 135 140

Gly Pro His Cys Thr Ser Arg Cys Gln Cys Lys Asn Gly Ala Leu Cys
 145 150 155 160

Asn Pro Ile Thr Gly Ala Cys His Cys Ala Ala Gly Phe Arg Gly Trp
 165 170 175

Arg Cys Glu Asp Arg Cys Glu Gln Gly Thr Tyr Gly Asn Asp Cys His
 180 185 190

Gln Arg Cys Gln Cys Gln Asn Gly Ala Thr Cys Asp His Val Thr Gly
 195 200 205

Glu Cys Arg Cys Pro Pro Gly Tyr Thr Gly Ala Phe Cys Glu Asp Leu
 210 215 220

Cys Pro Pro Gly Lys His Gly Pro Gln Cys Glu Gln Arg Cys Pro Cys
 225 230 235 240

Gln Asn Gly Gly Val Cys His His Val Thr Gly Glu Cys Ser Cys Pro
 245 250 255

Ser Gly Trp Met Gly Thr Val Cys Gly Gln Pro Cys Pro Glu Gly Arg
 260 265 270

Phe Gly Lys Asn Cys Ser Gln Glu Cys Gln Cys His Asn Gly Gly Thr
 275 280 285

Cys Asp Ala Ala Thr Gly Gln Cys His Cys Ser Pro Gly Tyr Thr Gly
 290 295 300

Glu Arg Cys Gln Asp Glu Cys Pro Val Gly Thr Tyr Gly Val Leu Cys			
305	310	315	320
Ala Glu Thr Cys Gln Cys Val Asn Gly Gly Lys Cys Tyr His Val Ser			
	325	330	335
Gly Ala Cys Leu Cys Glu Ala Gly Phe Ala Gly Glu Arg Cys Glu Ala			
	340	345	350
Arg Leu Cys Pro Glu Gly Leu Tyr Gly Ile Lys Cys Asp Lys Arg Cys			
	355	360	365
Pro Cys His Leu Glu Asn Thr His Ser Cys His Pro Met Ser Gly Glu			
	370	375	380
Cys Ala Cys Lys Pro Gly Trp Ser Gly Leu Tyr Cys Asn Glu Thr Cys			
385	390	395	400
Ser Pro Gly Phe Tyr Gly Glu Ala Cys Gln Gln Ile Cys Ser Cys Gln			
	405	410	415
Asn Gly Ala Asp Cys Asp Ser Val Thr Gly Lys Cys Thr Cys Ala Pro			
	420	425	430
Gly Phe Lys Gly Ile Asp Cys Ser Thr Pro Cys Pro Leu Gly Thr Tyr			
	435	440	445
Gly Ile Asn Cys Ser Ser Arg Cys Gly Cys Lys Asn Asp Ala Val Cys			
	450	455	460
Ser Pro Val Asp Gly Ser Cys Thr Cys Lys Ala Gly Trp His Gly Val			
465	470	475	480
Asp Cys Ser Ile Arg Cys Pro Ser Gly Thr Trp Gly Phe Gly Cys Asn			
	485	490	495
Leu Thr Cys Gln Cys Leu Asn Gly Gly Ala Cys Asn Thr Leu Asp Gly			
	500	505	510
Thr Cys Thr Cys Ala Pro Gly Trp Arg Gly Glu Lys Cys Glu Leu Pro			
	515	520	525
Cys Gln Asp Gly Thr Tyr Gly Leu Asn Cys Ala Glu Arg Cys Asp Cys			
	530	535	540
Ser His Ala Asp Gly Cys His Pro Thr Thr Gly His Cys Arg Cys Leu			
545	550	555	560

Pro Gly Trp Ser Gly Val His Cys Asp Ser Val Cys Ala Glu Gly Arg		
	565	570 575
Trp Gly Pro Asn Cys Ser Leu Pro Cys Tyr Cys Lys Asn Gly Ala Ser		
	580	585 590
Cys Ser Pro Asp Asp Gly Ile Cys Glu Cys Ala Pro Gly Phe Arg Gly		
	595	600 605
Thr Thr Cys Gln Arg Ile Cys Ser Pro Gly Phe Tyr Gly His Arg Cys		
	610	615 620
Ser Gln Thr Cys Pro Gln Cys Val His Ser Ser Gly Pro Cys His His		
	625	630 635 640
Ile Thr Gly Leu Cys Asp Cys Leu Pro Gly Phe Thr Gly Ala Leu Cys		
	645	650 655
Asn Glu Val Cys Pro Ser Gly Arg Phe Gly Lys Asn Cys Ala Gly Ile		
	660	665 670
Cys Thr Cys Thr Asn Asn Gly Thr Cys Asn Pro Ile Asp Arg Ser Cys		
	675	680 685
Gln Cys Tyr Pro Gly Trp Ile Gly Ser Asp Cys Ser Gln Pro Cys Pro		
	690	695 700
Pro Ala His Trp Gly Pro Asn Cys Ile His Thr Cys Asn Cys His Asn		
	705	710 715 720
Gly Ala Phe Cys Ser Ala Tyr Asp Gly Glu Cys Lys Cys Thr Pro Gly		
	725	730 735
Trp Thr Gly Leu Tyr Cys Thr Gln Arg Cys Pro Leu Gly Phe Tyr Gly		
	740	745 750
Lys Asp Cys Ala Leu Ile Cys Gln Cys Gln Asn Gly Ala Asp Cys Asp		
	755	760 765
His Ile Ser Gly Gln Cys Thr Cys Arg Thr Gly Phe Met Gly Arg His		
	770	775 780
Cys Glu Gln Lys Cys Pro Ser Gly Thr Tyr Gly Tyr Gly Cys Arg Gln		
	785	790 795 800
Ile Cys Asp Cys Leu Asn Asn Ser Thr Cys Asp His Ile Thr Gly Thr		
	805	810 815

Cys Tyr Cys Ser Pro Gly Trp Lys Gly Ala Arg Cys Asp Gln Ala Gly
 820 825 830
 Val Ile Ile Val Gly Asn Leu Asn Ser Leu Ser Arg Thr Ser Thr Ala
 835 840 845
 Leu Pro Ala Asp Ser Tyr Gln Ile Gly Ala Ile Ala Gly Ile Ile Ile
 850 855 860
 Leu Val Leu Val Val Leu Phe Leu Leu Ala Leu Phe Ile Ile Tyr Arg
 865 870 875 880
 His Lys Gln Lys Gly Lys Glu Ser Ser Met Pro Ala Val Thr Tyr Thr
 885 890 895
 Pro Ala Met Arg Val Val Asn Ala Asp Tyr Thr Ile Ser Gly Thr Leu
 900 905 910
 Pro His Ser Asn Gly Gly Asn Ala Asn Ser His Tyr Phe Thr Asn Pro
 915 920 925
 Ser Tyr His Thr Leu Thr Gln Cys Ala Thr Ser Pro His Val Asn Asn
 930 935 940
 Arg Asp Arg Met Thr Val Thr Lys Ser Lys Asn Asn Gln Leu Phe Val
 945 950 955 960
 Asn Leu Lys Asn Val Asn Pro Gly Lys Arg Gly Pro Val Gly Asp Cys
 965 970 975
 Thr Gly Thr Leu Pro Ala Asp Trp Lys His Gly Gly Tyr Leu Asn Glu
 980 985 990
 Leu Gly Ala Phe Gly Leu Asp Arg Ser Tyr Met Gly Lys Ser Leu Lys
 995 1000 1005
 Asp Leu Gly Lys Asn Ser Glu Tyr Asn Ser Ser Asn Cys Ser Leu Ser
 1010 1015 1020
 Ser Ser Glu Asn Pro Tyr Ala Thr Ile Lys Asp Pro Pro Val Leu Ile
 1025 1030 1035 1040
 Pro Lys Ser Ser Glu Cys Gly Tyr Val Glu Met Lys Ser Pro Ala Arg
 1045 1050 1055
 Arg Asp Ser Pro Tyr Ala Glu Ile Asn Asn Ser Thr Ser Ala Asn Arg
 1060 1065 1070

Asn Val Tyr Glu Val Glu Pro Thr Val Ser Val Val Gln Gly Val Phe
 1075 1080 1085

Ser Asn Asn Gly Arg Leu Ser Gln Asp Pro Tyr Asp Leu Pro Lys Asn
 1090 1095 1100

Ser His Ile Pro Cys His Tyr Asp Leu Leu Pro Val Arg Asp Ser Ser
 1105 1110 1115 1120

Ser Ser Pro Lys Gln Glu Asp Ser Gly Gly Ser Ser Ser Asn Ser Ser
 1125 1130 1135

Ser Ser Ser Glu
 1140

<210> 34
 <211> 969
 <212> PRT
 <213> Homo sapiens

<400> 34
 Met His Thr Pro Ser Ile Arg Ser Ile Thr His Asp Ala Gln Thr Ser
 1 5 10 15

Ser Thr Gly Ser Ser Ala Pro Gly Thr Ala Leu Cys Thr Glu Glu Cys
 20 25 30

Val His Gly Arg Cys Val Ser Pro Asp Thr Cys His Cys Glu Pro Gly
 35 40 45

Trp Gly Gly Pro Asp Cys Ser Ser Gly Cys Asp Ser Asp His Trp Gly
 50 55 60

Pro His Cys Ser Asn Arg Cys Gln Cys Gln Asn Gly Ala Leu Cys Asn
 65 70 75 80

Pro Ile Thr Gly Ala Cys Val Cys Ala Ala Gly Phe Arg Gly Trp Arg
 85 90 95

Cys Glu Glu Leu Cys Ala Pro Gly Thr His Gly Lys Gly Cys Gln Leu
 100 105 110

Pro Cys Gln Cys Arg His Gly Ala Ser Cys Asp Pro Arg Ala Gly Glu
 115 120 125

Cys Leu Cys Ala Pro Gly Tyr Thr Gly Val Tyr Cys Glu Glu Leu Cys
 130 135 140

Pro	Pro	Gly	Ser	His	Gly	Ala	His	Cys	Glu	Leu	Arg	Cys	Pro	Cys	Gln	145	150	155	160
Asn	Gly	Gly	Thr	Cys	His	His	Ile	Thr	Gly	Glu	Cys	Ala	Cys	Pro	Pro	165	170	175	
Gly	Trp	Thr	Gly	Ala	Val	Cys	Ala	Gln	Pro	Cys	Pro	Pro	Gly	Thr	Phe	180	185	190	
Gly	Gln	Asn	Cys	Ser	Gln	Asp	Cys	Pro	Cys	His	His	Gly	Gly	Gln	Cys	195	200	205	
Asp	His	Val	Thr	Gly	Gln	Cys	His	Cys	Thr	Ala	Gly	Tyr	Met	Gly	Asp	210	215	220	
Arg	Cys	Gln	Glu	Glu	Cys	Pro	Phe	Gly	Ser	Phe	Gly	Phe	Gln	Cys	Ser	225	230	235	240
Gln	Arg	Cys	Asp	Cys	His	Asn	Gly	Gly	Gln	Cys	Ser	Pro	Thr	Thr	Gly	245	250	255	
Ala	Cys	Glu	Cys	Glu	Pro	Gly	Tyr	Lys	Gly	Pro	Arg	Cys	Gln	Glu	Arg	260	265	270	
Leu	Cys	Pro	Glu	Gly	Leu	His	Gly	Pro	Gly	Cys	Thr	Leu	Pro	Cys	Pro	275	280	285	
Cys	Asp	Ala	Asp	Asn	Thr	Ile	Ser	Cys	His	Pro	Val	Thr	Gly	Ala	Cys	290	295	300	
Thr	Cys	Gln	Pro	Gly	Trp	Ser	Gly	His	His	Cys	Asn	Glu	Ser	Cys	Pro	305	310	315	320
Val	Gly	Tyr	Tyr	Gly	Asp	Gly	Cys	Gln	Leu	Pro	Cys	Thr	Cys	Gln	Asn	325	330	335	
Gly	Ala	Asp	Cys	His	Ser	Ile	Thr	Gly	Gly	Cys	Thr	Cys	Ala	Pro	Gly	340	345	350	
Phe	Met	Gly	Glu	Val	Cys	Ala	Val	Ser	Cys	Ala	Ala	Gly	Thr	Tyr	Gly	355	360	365	
Pro	Asn	Cys	Ser	Ser	Ile	Cys	Ser	Cys	Asn	Asn	Gly	Gly	Thr	Cys	Ser	370	375	380	
Pro	Val	Asp	Gly	Ser	Cys	Thr	Cys	Lys	Glu	Gly	Trp	Gln	Gly	Leu	Asp	385	390	395	400

Cys Thr Leu Pro Cys Pro Ser Gly Thr Trp Gly Leu Asn Cys Asn Glu
405 410 415
Ser Cys Thr Cys Ala Asn Gly Ala Ala Cys Ser Pro Ile Asp Gly Ser
420 425 430
Cys Ser Cys Thr Pro Gly Trp Leu Gly Asp Thr Cys Glu Leu Pro Cys
435 440 445
Pro Asp Gly Thr Phe Gly Leu Asn Cys Ser Glu His Cys Asp Cys Ser
450 455 460
His Ala Asp Gly Cys Asp Pro Val Thr Gly His Cys Cys Cys Leu Ala
465 470 475 480
Gly Trp Thr Gly Ile Arg Cys Asp Ser Thr Cys Pro Pro Gly Arg Trp
485 490 495
Gly Pro Asn Cys Ser Val Ser Cys Ser Cys Glu Asn Gly Gly Ser Cys
500 505 510
Ser Pro Glu Asp Gly Ser Cys Glu Cys Ala Pro Gly Phe Arg Gly Pro
515 520 525
Leu Cys Gln Arg Ile Cys Pro Pro Gly Phe Tyr Gly His Gly Cys Ala
530 535 540
Gln Pro Cys Pro Leu Cys Val His Ser Ser Arg Pro Cys His His Ile
545 550 555 560
Ser Gly Ile Cys Glu Cys Leu Pro Gly Phe Ser Gly Ala Leu Cys Asn
565 570 575
Gln Val Cys Ala Gly Gly Tyr Phe Gly Gln Asp Cys Ala Gln Leu Cys
580 585 590
Ser Cys Ala Asn Asn Gly Thr Cys Ser Pro Ile Asp Gly Ser Cys Gln
595 600 605
Cys Phe Pro Gly Trp Ile Gly Lys Asp Cys Ser Gln Ala Cys Pro Pro
610 615 620
Gly Phe Trp Gly Pro Ala Cys Phe His Ala Cys Ser Cys His Asn Gly
625 630 635 640
Ala Ser Cys Ser Ala Glu Asp Gly Ala Cys His Cys Thr Pro Gly Trp
645 650 655

Thr Gly Leu Phe Cys Thr Gln Arg Cys Pro Ala Ala Phe Phe Gly Lys	660	665	670
Asp Cys Gly Arg Val Cys Gln Cys Gln Asn Gly Ala Ser Cys Asp His	675	680	685
Ile Ser Gly Lys Cys Thr Cys Arg Thr Gly Phe Thr Gly Gln His Cys	690	695	700
Glu Gln Arg Cys Ala Pro Gly Thr Phe Gly Tyr Gly Cys Gln Gln Leu	705	710	715
Cys Glu Cys Met Asn Asn Ser Thr Cys Asp His Val Thr Gly Thr Cys	725	730	735
Tyr Cys Ser Pro Gly Phe Lys Gly Ile Arg Cys Asp Gln Ala Ala Leu	740	745	750
Met Met Glu Glu Leu Asn Pro Tyr Thr Lys Ile Ser Pro Ala Leu Gly	755	760	765
Ala Glu Arg His Ser Val Gly Ala Val Thr Gly Ile Met Leu Leu Leu	770	775	780
Phe Phe Ile Val Val Leu Leu Gly Leu Phe Ala Trp His Arg Arg Arg	785	790	795
Gln Lys Glu Lys Gly Arg Asp Leu Ala Pro Arg Val Ser Tyr Thr Pro	805	810	815
Ala Met Arg Met Thr Ser Thr Asp Tyr Ser Leu Ser Gly Ala Cys Gly	820	825	830
Met Asp Arg Arg Gln Asn Thr Tyr Ile Met Asp Lys Gly Phe Lys Asp	835	840	845
Tyr Met Lys Glu Ser Val Cys Ser Ser Ser Thr Cys Ser Leu Asn Ser	850	855	860
Ser Glu Asn Pro Tyr Ala Thr Ile Lys Asp Pro Pro Ile Leu Thr Cys	865	870	875
Lys Leu Pro Glu Ser Ser Tyr Val Glu Met Lys Ser Pro Val His Met	885	890	895
Gly Ser Pro Tyr Thr Asp Val Pro Ser Leu Ser Thr Ser Asn Lys Asn	900	905	910

Ile Tyr Glu Val Glu Pro Thr Val Ser Val Val Gln Glu Gly Cys Gly
 915 920 925

His Asn Ser Ser Tyr Ile Gln Asn Ala Tyr Asp Leu Pro Arg Asn Ser
 930 935 940

His Ile Pro Gly His Tyr Asp Leu Leu Pro Val Arg Gln Ser Pro Ala
 945 950 955 960

Asn Gly Pro Ser Gln Asp Lys Gln Ser
 965

<210> 35

<211> 969

<212> PRT

<213> Homo sapiens

<400> 35

Met His Thr Pro Ser Ile Arg Ser Ile Thr His Asp Ala Gln Thr Ser
 1 5 10 15

Ser Thr Gly Ser Ser Ala Pro Gly Thr Ala Leu Cys Thr Glu Glu Cys
 20 25 30

Val His Gly Arg Cys Val Ser Pro Asp Thr Cys His Cys Glu Pro Gly
 35 40 45

Trp Gly Gly Pro Asp Cys Ser Ser Gly Cys Asp Ser Asp His Trp Gly
 50 55 60

Pro His Cys Ser Asn Arg Cys Gln Cys Gln Asn Gly Ala Leu Cys Asn
 65 70 75 80

Pro Ile Thr Gly Ala Cys Val Cys Ala Ala Gly Phe Arg Gly Trp Arg
 85 90 95

Cys Glu Glu Leu Cys Ala Pro Gly Thr His Gly Lys Gly Cys Gln Leu
 100 105 110

Pro Cys Gln Cys Arg His Gly Ala Ser Cys Asp Pro Arg Ala Gly Glu
 115 120 125

Cys Leu Cys Ala Pro Gly Tyr Thr Gly Val Tyr Cys Glu Glu Leu Cys
 130 135 140

Pro Pro Gly Ser His Gly Ala His Cys Glu Leu Arg Cys Pro Cys Gln

145		150		155		160
Asn Gly Gly Thr Cys His His Ile Thr Gly Glu Cys Ala Cys Pro Pro						
	165		170		175	
Gly Trp Thr Gly Ala Val Cys Ala Gln Pro Cys Pro Pro Gly Thr Phe						
	180		185		190	
Gly Gln Asn Cys Ser Gln Asp Cys Pro Cys His His Gly Gly Gln Cys						
	195		200		205	
Asp His Val Thr Gly Gln Cys His Cys Thr Ala Gly Tyr Met Gly Asp						
	210		215		220	
Arg Cys Gln Glu Glu Cys Pro Phe Gly Ser Phe Gly Phe Gln Cys Ser						
	225		230		235	240
Gln His Cys Asp Cys His Asn Gly Gly Gln Cys Ser Pro Thr Thr Gly						
	245		250		255	
Ala Cys Glu Cys Glu Pro Gly Tyr Lys Gly Pro Arg Cys Gln Glu Arg						
	260		265		270	
Leu Cys Pro Glu Gly Leu His Gly Pro Gly Cys Thr Leu Pro Cys Pro						
	275		280		285	
Cys Asp Ala Asp Asn Thr Ile Ser Cys His Pro Val Thr Gly Ala Cys						
	290		295		300	
Thr Cys Gln Pro Gly Trp Ser Gly His His Cys Asn Glu Ser Cys Pro						
	305		310		315	320
Val Gly Tyr Tyr Gly Asp Gly Cys Gln Leu Pro Cys Thr Cys Gln Asn						
	325		330		335	
Gly Ala Asp Cys His Ser Ile Thr Gly Gly Cys Thr Cys Ala Pro Gly						
	340		345		350	
Phe Met Gly Glu Val Cys Ala Val Ser Cys Ala Ala Gly Thr Tyr Gly						
	355		360		365	
Pro Asn Cys Ser Ser Ile Cys Ser Cys Asn Asn Gly Gly Thr Cys Ser						
	370		375		380	
Pro Val Asp Gly Ser Cys Thr Cys Lys Glu Gly Trp Gln Gly Leu Asp						
	385		390		395	400
Cys Thr Leu Pro Cys Pro Ser Gly Thr Trp Gly Leu Asn Cys Asn Glu						

405	410	415
Ser Cys Thr Cys Ala Asn Gly Ala Ala Cys Ser Pro Ile Asp Gly Ser		
420	425	430
Cys Ser Cys Thr Pro Gly Trp Leu Gly Asp Thr Cys Glu Leu Pro Cys		
435	440	445
Pro Asp Gly Thr Phe Gly Leu Asn Cys Ser Glu His Cys Asp Cys Ser		
450	455	460
His Ala Asp Gly Cys Asp Pro Val Thr Gly His Cys Cys Cys Leu Ala		
465	470	475
Gly Trp Thr Gly Ile Arg Cys Asp Ser Thr Cys Pro Pro Gly Arg Trp		
485	490	495
Gly Pro Asn Cys Ser Val Ser Cys Ser Cys Glu Asn Gly Gly Ser Cys		
500	505	510
Ser Pro Glu Asp Gly Ser Cys Glu Cys Ala Pro Gly Phe Arg Gly Pro		
515	520	525
Leu Cys Gln Arg Ile Cys Pro Pro Gly Phe Tyr Gly His Gly Cys Ala		
530	535	540
Gln Pro Cys Pro Leu Cys Val His Ser Ser Arg Pro Cys His His Ile		
545	550	555
Ser Gly Ile Cys Glu Cys Leu Pro Gly Phe Ser Gly Ala Leu Cys Asn		
565	570	575
Gln Val Cys Ala Gly Gly Tyr Phe Gly Gln Asp Cys Ala Gln Leu Cys		
580	585	590
Ser Cys Ala Asn Asn Gly Thr Cys Ser Pro Ile Asp Gly Ser Cys Gln		
595	600	605
Cys Phe Pro Gly Trp Ile Gly Lys Asp Cys Ser Gln Ala Cys Pro Pro		
610	615	620
Gly Phe Trp Gly Pro Ala Cys Phe His Ala Cys Ser Cys His Asn Gly		
625	630	635
Ala Ser Cys Ser Ala Glu Asp Gly Ala Cys His Cys Thr Pro Gly Trp		
645	650	655
Thr Gly Leu Phe Cys Thr Gln Arg Cys Pro Ala Ala Phe Phe Gly Lys		

660	665	670
Asp Cys Gly Arg Val Cys Gln Cys Gln Asn Gly Ala Ser Cys Asp His		
675	680	685
Ile Ser Gly Lys Cys Thr Cys Arg Thr Gly Phe Thr Gly Gln His Cys		
690	695	700
Glu Gln Arg Cys Ala Pro Gly Thr Phe Gly Tyr Gly Cys Gln Gln Leu		
705	710	715
Cys Glu Cys Met Asn Asn Ser Thr Cys Asp His Val Thr Gly Thr Cys		
	725	730
		735
Tyr Cys Ser Pro Gly Phe Lys Gly Ile Arg Cys Asp Gln Ala Ala Leu		
	740	745
		750
Met Met Glu Glu Leu Asn Pro Tyr Thr Lys Ile Ser Pro Ala Leu Gly		
	755	760
		765
Ala Glu Arg His Ser Val Gly Ala Val Thr Gly Ile Met Leu Leu Leu		
	770	775
		780
Phe Leu Ile Val Val Leu Leu Gly Leu Phe Ala Trp His Arg Arg Arg		
785	790	795
		800
Gln Lys Glu Lys Gly Arg Asp Leu Ala Pro Arg Val Ser Tyr Thr Pro		
	805	810
		815
Ala Met Arg Met Thr Ser Thr Asp Tyr Ser Leu Ser Gly Ala Cys Gly		
	820	825
		830
Met Asp Arg Arg Gln Asn Thr Tyr Ile Met Asp Lys Gly Phe Lys Xaa		
	835	840
		845
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa		
850	855	860
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa		
865	870	875
		880
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Met Lys Ser Pro Val His Met		
	885	890
		895
Gly Ser Pro Tyr Thr Asp Val Pro Ser Leu Ser Thr Ser Asn Lys Asn		
	900	905
		910
Ile Tyr Glu Val Glu Pro Thr Val Ser Val Val Gln Glu Gly Cys Gly		

915	920	925
His Asn Ser Ser Tyr Ile Gln Asn Ala Tyr Asp Leu Pro Arg Asn Ser		
930	935	940
His Ile Pro Gly His Tyr Asp Leu Leu Pro Val Arg Gln Ser Pro Ala		
945	950	955
		960
Asn Gly Pro Ser Gln Asp Lys Gln Ser		
965		
<210> 36		
<211> 1234		
<212> PRT		
<213> Homo sapiens		
<400> 36		
Met Leu Ala Ser Pro Ala Thr Glu Thr Thr Val Leu Met Ser Gln Thr		
1	5	10
		15
Glu Ala Asp Leu Ala Leu Arg Pro Pro Pro Pro Leu Gly Thr Ala Gly		
20	25	30
Gln Pro Arg Leu Gly Pro Pro Pro Arg Arg Ala Arg Arg Phe Ser Gly		
35	40	45
Lys Ala Glu Pro Arg Pro Arg Ser Ser Arg Leu Ser Arg Arg Ser Ser		
50	55	60
Val Asp Leu Gly Leu Leu Ser Ser Trp Ser Leu Pro Ala Ser Pro Ala		
65	70	75
		80
Pro Asp Pro Pro Asp Pro Pro Asp Ser Ala Gly Pro Gly Pro Ala Arg		
85	90	95
Ser Pro Pro Ser Ser Lys Glu Pro Pro Glu Gly Thr Trp Thr Glu Gly		
100	105	110
Ala Pro Val Lys Ala Ala Glu Asp Ser Ala Arg Pro Glu Leu Pro Asp		
115	120	125
Ser Ala Val Gly Pro Gly Ser Arg Glu Pro Leu Arg Val Pro Glu Ala		
130	135	140
Val Ala Leu Glu Arg Arg Arg Glu Gln Glu Glu Lys Glu Asp Met Glu		
145	150	155
		160

Thr	Gln	Ala	Val	Ala	Thr	Ser	Pro	Asp	Gly	Arg	Tyr	Leu	Lys	Phe	Asp	165	170	175
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Arg	Gly	Leu	Asp	Thr	180	185	190
Asp	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Thr	Arg	Lys	Leu	195	200	205
Ser	Arg	Ala	Glu	Arg	Gln	Arg	Phe	Ser	Glu	Glu	Val	Glu	Met	Leu	Lys	210	215	220
Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Lys	Ser	225	230	235
Val	Leu	Arg	Gly	Gln	Val	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met	Thr	245	250	255
Ser	Gly	Thr	Leu	Lys	Thr	Leu	Arg	Arg	Phe	Arg	Glu	Met	Lys	Pro	Arg	260	265	270
Val	Leu	Gln	Arg	Trp	Ser	Arg	Gln	Ile	Leu	Arg	Gly	Leu	His	Phe	Leu	275	280	285
His	Ser	Arg	Val	Pro	Pro	Ile	Leu	His	Arg	Asp	Leu	Lys	Cys	Asp	Asn	290	295	300
Val	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp	Leu	Gly	305	310	315
Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile	Gly	Thr	325	330	335
Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp	Glu	Ala	340	345	350
Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala	Thr	Ser	355	360	365
Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Lys	Val	Thr	370	375	380
Ser	Gly	Arg	Lys	Pro	Asn	Ser	Phe	His	Lys	Val	Lys	Ile	Pro	Glu	Val	385	390	395
Lys	Glu	Ile	Ile	Glu	Gly	Cys	Ile	Arg	Thr	Asp	Lys	Asn	Glu	Arg	Phe	405	410	415

Thr Ile Gln Asp Leu Leu Ala His Ala Phe Phe Arg Glu Glu Arg Gly
 420 425 430
 Val His Val Glu Leu Ala Glu Glu Asp Asp Gly Glu Lys Pro Gly Leu
 435 440 445
 Lys Leu Trp Leu Arg Met Glu Asp Ala Arg Arg Gly Gly Arg Pro Arg
 450 455 460
 Asp Asn Gln Ala Ile Glu Phe Leu Phe Gln Leu Gly Arg Ala Ala Glu
 465 470 475 480
 Glu Val Ala Gln Glu Met Val Ala Leu Gly Leu Val Cys Glu Ala Asp
 485 490 495
 Tyr Gln Pro Val Ala Arg Ala Val Arg Glu Arg Val Ala Ala Ile Gln
 500 505 510
 Arg Lys Arg Lys Leu Arg Lys Ala Arg Glu Leu Glu Ala Leu Pro Pro
 515 520 525
 Glu Pro Gly Pro Pro Pro Ala Thr Val Pro Met Ala Pro Gly Pro Pro
 530 535 540
 Ser Val Phe Pro Pro Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln
 545 550 555 560
 Pro Phe Leu Phe Arg His Ala Ser Tyr Ser Ser Thr Thr Ser Asp Cys
 565 570 575
 Glu Thr Asp Gly Tyr Leu Ser Ser Ser Gly Phe Leu Asp Ala Ser Asp
 580 585 590
 Pro Ala Leu Gln Pro Pro Gly Gly Val Pro Ser Ser Leu Ala Glu Ser
 595 600 605
 His Leu Cys Leu Pro Ser Ala Phe Ala Leu Ser Ile Pro Arg Ser Gly
 610 615 620
 Pro Gly Ser Asp Phe Ser Pro Gly Asp Ser Tyr Ala Ser Asp Ala Ala
 625 630 635 640
 Ser Gly Leu Ser Asp Val Gly Glu Gly Met Gly Gln Met Arg Arg Pro
 645 650 655
 Pro Gly Arg Asn Leu Arg Arg Arg Pro Arg Ser Arg Leu Arg Val Thr
 660 665 670

Ser Val Ser Asp Gln Asn Asp Arg Val Val Glu Cys Gln Leu Gln Thr
 675 680 685
 His Asn Ser Lys Met Val Thr Phe Arg Phe Asp Leu Asp Gly Asp Ser
 690 695 700
 Pro Glu Glu Ile Ala Ala Ala Met Val Tyr Asn Glu Phe Ile Leu Pro
 705 710 715 720
 Ser Glu Arg Asp Gly Phe Leu Arg Arg Ile Arg Glu Ile Ile Gln Arg
 725 730 735
 Val Glu Thr Leu Leu Lys Arg Asp Thr Gly Pro Met Glu Ala Ala Glu
 740 745 750
 Asp Thr Leu Ser Pro Gln Glu Glu Pro Ala Pro Leu Pro Ala Leu Pro
 755 760 765
 Val Pro Leu Pro Asp Pro Ser Asn Glu Glu Leu Gln Ser Ser Thr Ser
 770 775 780
 Leu Glu His Arg Ser Trp Thr Ala Phe Ser Thr Ser Ser Ser Ser Pro
 785 790 795 800
 Gly Thr Pro Leu Ser Pro Gly Asn Pro Phe Ser Pro Gly Thr Pro Ile
 805 810 815
 Ser Pro Gly Pro Ile Phe Pro Ile Thr Ser Pro Pro Cys His Pro Ser
 820 825 830
 Pro Ser Pro Phe Ser Pro Ile Ser Ser Gln Val Ser Ser Asn Pro Ser
 835 840 845
 Pro His Pro Thr Ser Ser Pro Leu Pro Phe Ser Ser Ser Thr Pro Glu
 850 855 860
 Phe Pro Val Pro Leu Ser Gln Cys Pro Trp Ser Ser Leu Pro Thr Thr
 865 870 875 880
 Ser Pro Pro Thr Phe Ser Pro Thr Cys Ser Gln Val Thr Leu Ser Ser
 885 890 895
 Pro Phe Phe Pro Pro Cys Pro Ser Thr Ser Ser Phe Pro Ser Thr Thr
 900 905 910
 Ala Ala Pro Leu Leu Ser Leu Ala Ser Ala Phe Ser Leu Ala Val Met
 915 920 925

Thr Val Ala Gln Ser Leu Ser Pro Ser Pro Gly Leu Leu Ser Gln Ser
 930 935 940

Pro Pro Ala Pro Pro Ser Pro Leu Pro Ser Leu Pro Leu Pro Pro Pro
 945 950 955 960

Val Ala Pro Gly Gly Gln Glu Ser Pro Ser Pro His Thr Ala Glu Val
 965 970 975

Glu Ser Glu Ala Ser Pro Pro Pro Ala Arg Pro Leu Pro Gly Glu Ala
 980 985 990

Arg Leu Ala Pro Ile Ser Glu Glu Gly Lys Pro Gln Leu Val Gly Arg
 995 1000 1005

Phe Gln Val Thr Ser Ser Lys Glu Pro Ala Glu Pro Leu Pro Leu Gln
 1010 1015 1020

Pro Thr Ser Pro Thr Leu Ser Gly Ser Pro Lys Pro Ser Thr Pro Gln
 1025 1030 1035 1040

Leu Thr Ser Glu Ser Ser Asp Thr Glu Asp Ser Ala Gly Gly Gly Pro
 1045 1050 1055

Glu Thr Arg Glu Ala Leu Ala Glu Ser Asp Arg Ala Ala Glu Gly Leu
 1060 1065 1070

Gly Ala Gly Val Glu Glu Glu Gly Asp Asp Gly Lys Glu Pro Gln Val
 1075 1080 1085

Gly Gly Ser Pro Gln Pro Leu Ser His Pro Ser Pro Val Trp Met Asn
 1090 1095 1100

Tyr Ser Tyr Ser Ser Leu Cys Leu Ser Ser Glu Glu Ser Glu Ser Ser
 1105 1110 1115 1120

Gly Glu Glu Glu Phe Trp Ala Glu Leu Gln Ser Leu Arg Gln Lys His
 1125 1130 1135

Leu Ser Glu Val Glu Thr Leu Gln Thr Leu Gln Lys Lys Glu Ile Glu
 1140 1145 1150

Asp Leu Tyr Ser Arg Leu Gly Lys Gln Pro Pro Pro Gly Ile Val Ala
 1155 1160 1165

Pro Ala Ala Met Leu Ser Ser Arg Gln Arg Arg Leu Ser Lys Gly Ser
 1170 1175 1180

Phe Pro Thr Ser Arg Arg Asn Ser Leu Gln Arg Ser Glu Pro Pro Gly
 1185 1190 1195 1200

Pro Gly Ile Met Arg Arg Asn Ser Leu Ser Gly Ser Ser Thr Gly Ser
 1205 1210 1215

Gln Glu Gln Arg Ala Ser Lys Gly Val Thr Phe Ala Gly Asp Val Gly
 1220 1225 1230

Arg Met

<210> 37
 <211> 1231
 <212> PRT
 <213> Homo sapiens

<400> 37
 Met Ser Gln Thr Glu Ala Asp Leu Ala Leu Arg Pro Pro Pro Pro Leu
 1 5 10 15

Gly Thr Ala Gly Gln Pro Arg Leu Gly Pro Pro Pro Arg Arg Ala Arg
 20 25 30

Arg Phe Ser Gly Lys Ala Glu Pro Arg Pro Arg Ser Ser Arg Leu Ser
 35 40 45

Arg Arg Ser Ser Val Asp Leu Gly Leu Leu Ser Ser Trp Ser Leu Pro
 50 55 60

Ala Ser Pro Ala Pro Asp Pro Pro Asp Pro Pro Asp Ser Ala Gly Pro
 65 70 75 80

Gly Pro Ala Arg Ser Pro Pro Pro Ser Ser Lys Glu Pro Pro Glu Gly
 85 90 95

Thr Trp Thr Glu Gly Ala Pro Val Lys Ala Ala Glu Asp Ser Ala Arg
 100 105 110

Pro Glu Leu Pro Asp Ser Ala Val Gly Pro Gly Ser Arg Glu Pro Leu
 115 120 125

Arg Val Pro Glu Ala Val Ala Leu Glu Arg Arg Arg Glu Gln Glu Glu
 130 135 140

Lys Glu Asp Met Glu Thr Gln Ala Val Ala Thr Ser Pro Asp Gly Arg
 145 150 155 160

Tyr Leu Lys Phe Asp Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val
 165 170 175

Tyr Arg Gly Leu Asp Thr Asp Thr Thr Val Glu Val Ala Trp Cys Glu
 180 185 190

Leu Gln Thr Arg Lys Leu Ser Arg Ala Glu Arg Gln Arg Phe Ser Glu
 195 200 205

Glu Val Glu Met Leu Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe
 210 215 220

Tyr Asp Ser Trp Lys Ser Val Leu Arg Gly Gln Val Cys Ile Val Leu
 225 230 235 240

Val Thr Glu Leu Met Thr Ser Gly Thr Leu Lys Thr Tyr Leu Arg Arg
 245 250 255

Phe Arg Glu Met Lys Pro Arg Val Leu Gln Arg Trp Ser Arg Gln Ile
 260 265 270

Leu Arg Gly Leu His Phe Leu His Ser Arg Val Pro Pro Ile Leu His
 275 280 285

Arg Asp Leu Lys Cys Asp Asn Val Phe Ile Thr Gly Pro Thr Gly Ser
 290 295 300

Val Lys Ile Gly Asp Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe
 305 310 315 320

Ala Lys Ser Val Ile Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr
 325 330 335

Glu Glu Lys Tyr Asp Glu Ala Val Asp Val Tyr Ala Phe Gly Met Cys
 340 345 350

Met Leu Glu Met Ala Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn
 355 360 365

Ala Ala Gln Ile Tyr Arg Lys Val Thr Ser Gly Arg Lys Pro Asn Ser
 370 375 380

Phe His Lys Val Lys Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys
 385 390 395 400

Ile Arg Thr Asp Lys Asn Glu Arg Phe Thr Ile Gln Asp Leu Leu Ala
 405 410 415

His Ala Phe Phe Arg Glu Glu Arg Gly Val His Val Glu Leu Ala Glu
 420 425 430
 Glu Asp Asp Gly Glu Lys Pro Gly Leu Lys Leu Trp Leu Arg Met Glu
 435 440 445
 Asp Ala Arg Arg Gly Gly Arg Pro Arg Asp Asn Gln Ala Ile Glu Phe
 450 455 460
 Leu Phe Gln Leu Gly Arg Asp Ala Ala Glu Glu Val Ala Gln Glu Met
 465 470 475 480
 Val Ala Leu Gly Leu Val Cys Glu Ala Asp Tyr Gln Pro Val Ala Arg
 485 490 495
 Ala Val Arg Glu Arg Val Ala Ala Ile Gln Arg Lys Arg Glu Lys Leu
 500 505 510
 Arg Lys Ala Arg Glu Leu Glu Ala Leu Pro Pro Glu Pro Gly Pro Pro
 515 520 525
 Pro Ala Thr Val Pro Met Ala Pro Gly Pro Pro Ser Val Phe Pro Pro
 530 535 540
 Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Pro Phe Leu Phe Arg
 545 550 555 560
 His Ala Ser Tyr Ser Ser Thr Thr Ser Asp Cys Glu Thr Asp Gly Tyr
 565 570 575
 Leu Ser Ser Ser Gly Phe Leu Asp Ala Ser Asp Pro Ala Leu Gln Pro
 580 585 590
 Pro Gly Gly Val Pro Ser Ser Leu Ala Glu Ser His Leu Cys Leu Pro
 595 600 605
 Ser Ala Phe Ala Leu Ser Ile Pro Arg Ser Gly Pro Gly Ser Asp Phe
 610 615 620
 Ser Pro Gly Asp Ser Tyr Ala Ser Asp Ala Ala Ser Gly Leu Ser Asp
 625 630 635 640
 Val Gly Glu Gly Met Gly Gln Met Arg Arg Pro Pro Gly Arg Asn Leu
 645 650 655
 Arg Arg Arg Pro Arg Ser Arg Leu Arg Val Thr Ser Val Ser Asp Gln
 660 665 670

Leu Leu Ser Pro Ser Pro Gly Leu Leu Ser Gln Ser Pro Pro Ala Pro
 930 935 940

Pro Ser Pro Leu Pro Ser Leu Pro Leu Pro Pro Pro Val Ala Pro Gly
 945 950 955 960

Gly Gln Glu Ser Pro Ser Pro His Thr Ala Glu Val Glu Ser Glu Ala
 965 970 975

Ser Pro Pro Pro Ala Arg Pro Leu Pro Gly Glu Ala Arg Leu Ala Pro
 980 985 990

Ile Ser Glu Glu Gly Lys Pro Gln Leu Val Gly Arg Phe Gln Val Thr
 995 1000 1005

Ser Ser Lys Glu Pro Ala Glu Pro Leu Pro Leu Gln Pro Thr Ser Pro
 1010 1015 1020

Thr Leu Ser Gly Ser Pro Lys Pro Ser Thr Pro Gln Leu Thr Ser Glu
 1025 1030 1035 1040

Ser Ser Asp Thr Glu Asp Ser Ala Gly Gly Gly Pro Glu Thr Arg Glu
 1045 1050 1055

Ala Leu Ala Glu Ser Asp Arg Ala Ala Glu Gly Leu Gly Ala Gly Val
 1060 1065 1070

Glu Glu Glu Gly Asp Asp Gly Lys Glu Pro Gln Val Gly Gly Ser Pro
 1075 1080 1085

Gln Pro Leu Ser His Pro Ser Pro Val Trp Met Asn Tyr Ser Tyr Ser
 1090 1095 1100

Ser Leu Cys Leu Ser Ser Glu Glu Ser Glu Ser Ser Gly Glu Asp Glu
 1105 1110 1115 1120

Glu Phe Trp Ala Glu Leu Gln Ser Leu Arg Gln Lys His Leu Ser Glu
 1125 1130 1135

Val Glu Thr Leu Gln Thr Leu Gln Lys Lys Glu Ile Glu Asp Leu Tyr
 1140 1145 1150

Ser Arg Leu Gly Lys Gln Pro Pro Pro Gly Ile Val Ala Pro Ala Ala
 1155 1160 1165

Met Leu Ser Ser Arg Gln Arg Arg Leu Ser Lys Gly Ser Phe Pro Thr
 1170 1175 1180

Ser Arg Arg Asn Ser Leu Gln Arg Ser Glu Pro Pro Gly Pro Gly Ile
 1185 1190 1195 1200

Met Arg Arg Asn Ser Leu Ser Gly Ser Ser Thr Gly Ser Gln Glu Gln
 1205 1210 1215

Arg Ala Ser Lys Gly Val Thr Phe Ala Gly Asp Val Gly Arg Met
 1220 1225 1230

<210> 38

<211> 670

<212> PRT

<213> Homo sapiens

<400> 38

Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
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Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp
 20 25 30

Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr
 35 40 45

Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp
 50 55 60

Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe
 65 70 75 80

Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
 85 90 95

Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
 100 105 110

Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
 115 120 125

Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Ala Pro Gly
 130 135 140

Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr
 145 150 155 160

Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu

165										170					175				
Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ser	Ala	Lys	Glu				
			180					185					190						
Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu	Glu				
		195					200					205							
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp				
	210					215					220								
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp				
225					230					235					240				
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys				
				245					250					255					
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu				
			260					265					270						
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu				
		275					280					285							
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met				
	290					295					300								
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys				
305					310					315					320				
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln				
				325					330					335					
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys				
			340					345					350						
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp				
		355					360					365							
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile				
	370					375					380								
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp				
385					390					395					400				
Glu	Ser	Val	Asp	Val	Tyr	Ala	Phe	Gly	Met	Cys	Met	Leu	Glu	Met	Ala				
			405					410					415						
Thr	Ser	Glu	Tyr	Pro	Tyr	Ser	Glu	Cys	Gln	Asn	Ala	Ala	Gln	Ile	Tyr				

420	425	430
Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe Asp Lys Val Ala		
435	440	445
Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Gln Asn Lys		
450	455	460
Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His Ala Phe Phe Gln		
465	470	475
Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu Asp Asp Gly Glu		
485	490	495
Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp Ile Lys Lys Leu		
500	505	510
Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe Ser Phe Asp Leu		
515	520	525
Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met Val Glu Ser Gly		
530	535	540
Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys Ala Ile Lys Asp		
545	550	555
Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg Gln Leu Val Arg		
565	570	575
Glu Glu Gln Glu Lys Lys Lys Gln Glu Glu Ser Ser Leu Lys Gln Gln		
580	585	590
Val Glu Gln Ser Ser Ala Ser Gln Thr Gly Ile Lys Gln Leu Pro Ser		
595	600	605
Ala Ser Thr Gly Ile Pro Thr Ala Ser Thr Thr Ser Ala Ser Val Ser		
610	615	620
Thr Gln Val Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Gln Leu		
625	630	635
Gln Tyr Gln Gln Pro Ser Ile Ser Val Leu Ser Asp Gly Thr Val Asp		
645	650	655
Ser Gly Gln Gly Ser Ser Val Phe Thr Glu Ser Arg Gly Gly		
660	665	670

<210> 39
 <211> 2126
 <212> PRT
 <213> Rattus norvegicus

<400> 39
 Met Ser Asp Gly Thr Ala Glu Lys Gln Ser Gly Thr Pro Gly Phe Leu
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 Ser Pro Pro Ala Pro Val Pro Lys Asn Gly Ser Ser Ser Asp Ser Ser
 20 25 30
 Val Gly Glu Lys Leu Gly Ala Ala Val Ala Asp Ser Gly Ile Gly Arg
 35 40 45
 Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp Ser Arg
 50 55 60
 Gly Ala Ala Ala Thr Thr Thr Pro Thr Glu His Arg Phe Phe Arg Arg
 65 70 75 80
 Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro Gly Leu
 85 90 95
 Pro Leu Ser Ile Pro Gln Pro Ser Val Pro Ala Val Val Pro Gln Ser
 100 105 110
 Ala Pro Pro Glu Pro His Arg Glu Glu Thr Leu Thr Ala Thr Val Ala
 115 120 125
 Ser Gln Val Ser Gln Gln Pro Ser Ala Ala Ala Ser Pro Gly Glu Gln
 130 135 140
 Ala Val Val Gly Ser Ala Thr Ala Thr Val Pro Ser Ser Thr Ser Lys
 145 150 155 160
 Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu Glu Pro
 165 170 175
 Pro Pro Ser Arg Ser Gly Ser Gly Ser Gly Gly Ala Ser Ala Lys Glu
 180 185 190
 Pro Gln Glu Glu Arg Asn Gln Gln Gln Asp Asp Ile Glu Glu Leu Glu
 195 200 205
 Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp
 210 215 220

Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Lys Gly Leu Asp
 225 230 235 240
 Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Asp Arg Lys
 245 250 255
 Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu Ala Glu Met Leu
 260 265 270
 Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Glu
 275 280 285
 Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val Thr Glu Leu Met
 290 295 300
 Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe Lys Val Met Lys
 305 310 315 320
 Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu Lys Gly Leu Gln
 325 330 335
 Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg Asp Leu Lys Cys
 340 345 350
 Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp
 355 360 365
 Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile
 370 375 380
 Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp
 385 390 395 400
 Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala
 405 410 415
 Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr
 420 425 430
 Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe Asp Lys Val Ala
 435 440 445
 Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Gln Asn Lys
 450 455 460
 Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His Ala Phe Phe Gln
 465 470 475 480

Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu Asp Asp Gly Glu
 485 490 495

Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp Ile Lys Lys Leu
 500 505 510

Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe Ser Phe Asp Leu
 515 520 525

Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met Val Glu Ser Gly
 530 535 540

Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys Ala Ile Lys Asp
 545 550 555 560

Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg Gln Leu Val Arg
 565 570 575

Glu Glu Gln Glu Lys Arg Lys Gln Glu Glu Ser Ser Phe Lys Gln Gln
 580 585 590

Asn Glu Gln Gln Ala Ser Val Ser Gln Ala Gly Ile Gln Pro Leu Ser
 595 600 605

Val Ala Ser Thr Gly Ile Pro Thr Ala Pro Thr Thr Ser Ala Ser Val
 610 615 620

Ser Thr Gln Val Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Gln
 625 630 635 640

Leu Gln Tyr Gln Gln Pro Ser Ile Ser Val Leu Ser Asp Gly Thr Val
 645 650 655

Asp Ser Gly Gln Gly Ser Ser Val Phe Thr Glu Ser Arg Val Ser Ser
 660 665 670

Gln Gln Thr Val Ser Tyr Gly Ser Gln His Glu Gln Ala His Ser Ile
 675 680 685

Gly Thr Ala Pro Gly His Thr Val Ser Ser Ile Gln Ala Gln Ser Gln
 690 695 700

Pro His Gly Val Tyr Pro Pro Ser Ser Met Ala Gln Gly Gln Asn Gln
 705 710 715 720

Gly Gln Pro Ser Ser Ser Leu Ala Gly Val Leu Ser Ser Gln Pro Val
 725 730 735

Gln His Pro Gln Gln Gln Gly Ile Gln Pro Thr Val Pro Pro Gln Gln
 740 745 750
 Ala Val Gln Tyr Ser Leu Pro Gln Ala Ala Ser Ser Ser Glu Gly Thr
 755 760 765
 Val Gln Pro Val Ser Gln Pro Gln Val Ser Ala Gly Thr Gln Ser Ser
 770 775 780
 Thr Gln Gly Val Ser Gln Ala Ala Pro Pro Glu Gln Thr Pro Ile Thr
 785 790 795 800
 Gln Ser Gln Pro Thr Gln Pro Val Pro Leu Val Ser Ser Val Asp Ser
 805 810 815
 Ala His Ser Asp Val Ala Ser Gly Met Ser Asp Gly Asn Glu Asn Ala
 820 825 830
 Pro Ser Ser Ser Gly Arg His Glu Gly Arg Thr Thr Lys Arg His Tyr
 835 840 845
 Arg Lys Ser Val Arg Ser Arg Ser Arg His Glu Lys Thr Ser Arg Pro
 850 855 860
 Lys Leu Arg Ile Leu Asn Val Ser Asn Lys Gly Asp Arg Val Val Glu
 865 870 875 880
 Cys Gln Leu Glu Thr His Asn Arg Lys Met Val Thr Phe Lys Phe Asp
 885 890 895
 Leu Asp Gly Asp Asn Pro Glu Glu Ile Ala Thr Ile Met Val Asn Asn
 900 905 910
 Asp Phe Ile Leu Ala Ile Glu Arg Glu Ser Phe Val Ala Gln Val Arg
 915 920 925
 Glu Ile Ile Glu Lys Ala Asp Glu Met Leu Ser Glu Asp Val Ser Val
 930 935 940
 Glu Pro Glu Gly Asp Gln Gly Leu Glu Ser Leu Gln Gly Lys Asp Asp
 945 950 955 960
 Tyr Gly Phe Pro Gly Ser Gln Lys Leu Glu Gly Glu Phe Lys Gln Pro
 965 970 975
 Ile Ala Val Ser Ser Met Pro Gln Gln Ile Gly Val Pro Thr Ser Ser
 980 985 990

Leu Thr Gln Val Val His Ser Ala Gly Arg Arg Phe Ile Val Ser Pro
 995 1000 1005
 Val Pro Glu Ser Arg Leu Arg Glu Ser Lys Ile Phe Thr Ser Glu Ile
 1010 1015 1020
 Pro Asp Pro Val Ala Ala Ser Thr Ser Gln Gly Pro Gly Met Asn Leu
 1025 1030 1035 1040
 Ser His Ser Ala Ser Ser Leu Ser Leu Gln Gln Ala Phe Ser Glu Leu
 1045 1050 1055
 Lys His Gly Gln Met Thr Glu Gly Pro Asn Thr Ala Pro Pro Asn Phe
 1060 1065 1070
 Asn His Pro Gly Pro Thr Phe Ser Pro Phe Leu Thr Ser Ile Ala Gly
 1075 1080 1085
 Val Gln Thr Val Ala Ala Ser Thr Pro Ser Val Ser Val Pro Ile Thr
 1090 1095 1100
 Ser Ser Pro Leu Asn Asp Ile Ser Thr Ser Val Met Gln Ser Glu Gly
 1105 1110 1115 1120
 Ala Leu Pro Thr Asp Lys Gly Ile Gly Gly Val Thr Thr Ser Thr Gly
 1125 1130 1135
 Val Val Ala Ser Gly Gly Leu Thr Thr Leu Ser Val Ser Glu Thr Pro
 1140 1145 1150
 Thr Leu Ser Ser Ala Val Ser Ser Ser Thr Ala Pro Ala Val Val Thr
 1155 1160 1165
 Val Ser Thr Thr Ser Gln Pro Val Gln Ala Phe Thr Ser Gly Ser Ile
 1170 1175 1180
 Ala Ser Ser Thr Gly Ser Phe Pro Ser Gly Thr Phe Ser Thr Thr Thr
 1185 1190 1195 1200
 Gly Thr Thr Val Ser Ser Val Ala Val Pro Asn Ala Lys Pro Pro Thr
 1205 1210 1215
 Val Leu Leu Gln Gln Val Ala Gly Asn Thr Ala Gly Val Ala Ile Val
 1220 1225 1230
 Thr Ser Val Ser Thr Thr Thr Pro Phe Pro Ala Met Ala Ser Gln Pro
 1235 1240 1245

Ser Leu Pro Leu Gly Ser Ser Thr Ser Ala Pro Thr Leu Ala Glu Thr
 1250 1255 1260

Val Val Val Ser Ala His Ser Leu Asp Lys Ala Ser His Ser Ser Thr
 1265 1270 1275 1280

Ala Gly Leu Gly Leu Ser Phe Cys Ala Pro Ser Ser Ser Ser Ser Ser
 1285 1290 1295

Gly Thr Ala Val Ser Ser Ser Val Ser Gln Pro Gly Ile Val His Pro
 1300 1305 1310

Leu Val Ile Ser Ser Ala Ile Ala Ser Thr Pro Val Leu Pro Gln Pro
 1315 1320 1325

Ala Val Pro Thr Ser Thr Pro Leu Leu Pro Gln Val Pro Asn Ile Pro
 1330 1335 1340

Pro Leu Val Gln Pro Val Ala Asn Val Pro Ala Val Gln Gln Thr Leu
 1345 1350 1355 1360

Ile His Ser Gln Pro Gln Pro Ala Leu Leu Pro Asn Gln Pro His Thr
 1365 1370 1375

His Cys Pro Glu Met Asp Ala Asp Thr Gln Ser Lys Ala Pro Gly Ile
 1380 1385 1390

Asp Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser Glu
 1395 1400 1405

His Ser Ser Ser Gly Thr Gln His Ala Ser Val Ser Leu Glu Thr Pro
 1410 1415 1420

Leu Val Val Glu Thr Val Thr Pro Gly Ile Pro Thr Thr Ala Val Ala
 1425 1430 1435 1440

Pro Ser Lys Leu Met Thr Ser Thr Thr Ser Thr Cys Leu Pro Pro Thr
 1445 1450 1455

Asn Leu Pro Leu Gly Thr Ala Gly Met Pro Val Met Pro Val Gly Thr
 1460 1465 1470

Pro Gly Gln Val Ser Thr Pro Gly Thr His Ala Ser Ala Pro Ala Ser
 1475 1480 1485

Thr Ala Thr Gly Ala Lys Pro Gly Thr Thr Pro Pro Lys Pro Ser Leu
 1490 1495 1500

Thr Lys Thr Val Val Pro Pro Val Gly Thr Glu Leu Ser Ala Gly Thr
 1505 1510 1515 1520

Val Pro Cys Glu Gln Leu Pro Pro Phe Pro Gly Pro Ser Leu Ile Gln
 1525 1530 1535

Thr Gln Gln Pro Leu Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu
 1540 1545 1550

Ser Pro Glu Thr Ile Pro Val Thr Pro Ala Val Gly Pro Leu Ser Thr
 1555 1560 1565

Met Ser Ser Thr Ala Val Thr Glu Ala Gly Ser Gln Pro Gln Lys Asp
 1570 1575 1580

Gly Thr Glu Val His Val Thr Ala Ser Ser Ser Gly Ala Gly Val Val
 1585 1590 1595 1600

Lys Met Gly Arg Phe Gln Val Ser Val Thr Met Asp Asp Ala Gln Lys
 1605 1610 1615

Glu Arg Lys Asn Arg Ser Glu Asp Thr Lys Ser Val His Phe Glu Ser
 1620 1625 1630

Ser Thr Ser Glu Ser Ser Val Leu Ser Ser Ser Ser Pro Glu Ser Thr
 1635 1640 1645

Leu Val Lys Pro Glu Pro Asn Gly Ile Thr Val Ser Gly Ile Ser Leu
 1650 1655 1660

Asp Val Pro Asp Ser Thr His Arg Thr Pro Thr Pro Glu Ala Lys Ser
 1665 1670 1675 1680

Glu Thr Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr Thr
 1685 1690 1695

Ala Asn Lys Val Gly Arg Phe Ser Val Ser Arg Thr Glu Asp Lys Val
 1700 1705 1710

Thr Glu Leu Lys Lys Glu Gly Pro Val Thr Ser Pro Phe Arg Asp Ser
 1715 1720 1725

Glu Gln Thr Val Ile Pro Ala Ala Ile Pro Lys Lys Glu Lys Pro Glu
 1730 1735 1740

Leu Ala Glu Pro Ser His Leu Asn Gly Pro Ser Ser Asp Leu Glu Ala
 1745 1750 1755 1760

Ala Phe Leu Ser Arg Gly Gly Glu Asp Gly Ser Gly Ser Pro His Ser		
1765	1770	1775
Pro Pro His Leu Cys Ser Lys Ser Leu Pro Ile Gln Thr Leu Ser Gln		
1780	1785	1790
Ser Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu		
1795	1800	1805
Ser Asp Ile Glu Asp Glu Asp Leu Arg Leu Glu Leu Arg Arg Leu Arg		
1810	1815	1820
Glu Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His		
1825	1830	1835
Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val		
1845	1850	1855
Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr		
1860	1865	1870
Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys		
1875	1880	1885
Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Gly Thr Ser Val		
1890	1895	1900
Leu Asn Pro Gln Gln Thr Leu His Pro Pro Gly Asn Thr Pro Glu Thr		
1905	1910	1915
Gly His Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp		
1925	1930	1935
Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Ile Pro Ser		
1940	1945	1950
Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser Thr Asn Thr Val Gly Gly		
1955	1960	1965
Thr Val Ser Ser Gln Ala Ala Gln Ala Gln Pro Pro Ala Met Thr Ser		
1970	1975	1980
Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu His Lys Leu Val Asp Asn		
1985	1990	1995
Trp Ala Arg Asp Ala Met Asn Leu Ser Gly Arg Arg Gly Ser Lys Gly		
2005	2010	2015

His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser Ala Pro
 2020 2025 2030

Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Met Gly Gly Ser Thr Pro
 2035 2040 2045

Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met
 2050 2055 2060

Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala Ala Pro Phe Gly Thr Gln
 2065 2070 2075 2080

Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln
 2085 2090 2095

Pro Val Gly Thr Thr Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln
 2100 2105 2110

Lys Ser Ile Ser Asn Pro Pro Ser Ser Asn Leu Arg Thr Thr
 2115 2120 2125

<210> 40

<211> 2382

<212> PRT

<213> Homo sapiens

<400> 40

Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
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Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp
 20 25 30

Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr
 35 40 45

Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp
 50 55 60

Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe
 65 70 75 80

Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
 85 90 95

Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
 100 105 110

Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
 115 120 125

Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Pro Gly
 130 135 140

Glu Gln Ala Val Ala Gly Pro Ala Pro Ser Thr Val Pro Ser Ser Thr
 145 150 155 160

Ser Lys Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu
 165 170 175

Glu Pro Pro Pro Ala Arg Ser Gly Ser Gly Gly Gly Ser Ala Lys Glu
 180 185 190

Pro Gln Glu Glu Arg Ser Gln Gln Gln Asp Asp Ile Glu Glu Leu Glu
 195 200 205

Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp
 210 215 220

Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Lys Gly Leu Asp
 225 230 235 240

Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Asp Arg Lys
 245 250 255

Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu Ala Glu Met Leu
 260 265 270

Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Glu
 275 280 285

Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val Thr Glu Leu Met
 290 295 300

Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe Lys Val Met Lys
 305 310 315 320

Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu Lys Gly Leu Gln
 325 330 335

Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg Asp Leu Lys Cys
 340 345 350

Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp
 355 360 365

Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile
 370 375 380

Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp
 385 390 395 400

Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala
 405 410 415

Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr
 420 425 430

Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe Asp Lys Val Ala
 435 440 445

Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Gln Asn Lys
 450 455 460

Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His Ala Phe Phe Gln
 465 470 475 480

Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu Asp Asp Gly Glu
 485 490 495

Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp Ile Lys Lys Leu
 500 505 510

Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe Ser Phe Asp Leu
 515 520 525

Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met Val Glu Ser Gly
 530 535 540

Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys Ala Ile Lys Asp
 545 550 555 560

Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg Gln Leu Val Arg
 565 570 575

Glu Glu Gln Glu Lys Lys Lys Gln Glu Glu Ser Ser Leu Lys Gln Gln
 580 585 590

Val Glu Gln Ser Ser Ala Ser Gln Thr Gly Ile Lys Gln Leu Pro Ser
 595 600 605

Ala Ser Thr Gly Ile Pro Thr Ala Ser Thr Thr Ser Ala Ser Val Ser
 610 615 620

Thr Gln Val Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Gln Leu
 625 630 635 640

Gln Tyr Gln Gln Pro Ser Ile Ser Val Leu Ser Asp Gly Thr Val Asp
 645 650 655

Ser Gly Gln Gly Ser Ser Val Phe Thr Glu Ser Arg Val Ser Ser Gln
 660 665 670

Gln Thr Val Ser Tyr Gly Ser Gln His Glu Gln Ala His Ser Thr Gly
 675 680 685

Thr Val Pro Gly His Ile Pro Ser Thr Val Gln Ala Gln Ser Gln Pro
 690 695 700

His Gly Val Tyr Pro Pro Ser Ser Val Ala Gln Gly Gln Ser Gln Gly
 705 710 715 720

Gln Pro Ser Ser Ser Ser Leu Thr Gly Val Ser Ser Ser Gln Pro Ile
 725 730 735

Gln His Pro Gln Gln Gln Gln Gly Ile Gln Gln Thr Ala Pro Pro Gln
 740 745 750

Gln Thr Val Gln Tyr Ser Leu Ser Gln Thr Ser Thr Ser Ser Glu Ala
 755 760 765

Thr Thr Ala Gln Pro Val Ser Gln Pro Gln Ala Pro Gln Val Leu Pro
 770 775 780

Gln Val Ser Ala Gly Lys Gln Leu Pro Val Ser Gln Pro Val Pro Thr
 785 790 795 800

Ile Gln Gly Glu Pro Gln Ile Pro Val Ala Thr Gln Pro Ser Val Val
 805 810 815

Pro Val His Ser Gly Ala His Phe Leu Pro Val Gly Gln Pro Leu Pro
 820 825 830

Thr Pro Leu Leu Pro Gln Tyr Pro Val Ser Gln Ile Pro Ile Ser Thr
 835 840 845

Pro His Val Ser Thr Ala Gln Thr Gly Phe Ser Ser Leu Pro Ile Thr
 850 855 860

Met Ala Ala Gly Ile Thr Gln Pro Leu Leu Thr Leu Ala Ser Ser Ala
 865 870 875 880

Thr Thr Ala Ala Ile Pro Gly Val Ser Thr Val Val Pro Ser Gln Leu
 885 890 895
 Pro Thr Leu Leu Gln Pro Val Thr Gln Leu Pro Ser Gln Val His Pro
 900 905 910
 Gln Leu Leu Gln Pro Ala Val Gln Ser Met Gly Ile Pro Ala Asn Leu
 915 920 925
 Gly Gln Ala Ala Glu Val Pro Leu Ser Ser Gly Asp Val Leu Tyr Gln
 930 935 940
 Gly Phe Pro Pro Arg Leu Pro Pro Gln Tyr Pro Gly Asp Ser Asn Ile
 945 950 955 960
 Ala Pro Ser Ser Asn Val Ala Ser Val Cys Ile His Ser Thr Val Leu
 965 970 975
 Ser Pro Pro Met Pro Thr Glu Val Leu Ala Thr Pro Gly Tyr Phe Pro
 980 985 990
 Thr Val Val Gln Pro Tyr Val Glu Ser Asn Leu Leu Val Pro Met Gly
 995 1000 1005
 Gly Val Gly Gly Gln Val Gln Val Ser Gln Pro Gly Gly Ser Leu Ala
 1010 1015 1020
 Gln Ala Pro Thr Thr Ser Ser Gln Gln Ala Val Leu Glu Ser Thr Gln
 1025 1030 1035 1040
 Gly Val Ser Gln Val Ala Pro Ala Glu Pro Val Ala Val Ala Gln Pro
 1045 1050 1055
 Gln Ala Thr Gln Pro Thr Thr Leu Ala Ser Ser Val Asp Ser Ala His
 1060 1065 1070
 Ser Asp Val Ala Ser Gly Met Ser Asp Gly Asn Glu Asn Val Pro Ser
 1075 1080 1085
 Ser Ser Gly Arg His Glu Gly Arg Thr Thr Lys Arg His Tyr Arg Lys
 1090 1095 1100
 Ser Val Arg Ser Arg Ser Arg His Glu Lys Thr Ser Arg Pro Lys Leu
 1105 1110 1115 1120
 Arg Ile Leu Asn Val Ser Asn Lys Gly Asp Arg Val Val Glu Cys Gln
 1125 1130 1135

Leu Glu Thr His Asn Arg Lys Met Val Thr Phe Lys Phe Asp Leu Asp
 1140 1145 1150

Gly Asp Asn Pro Glu Glu Ile Ala Thr Ile Met Val Asn Asn Asp Phe
 1155 1160 1165

Ile Leu Ala Ile Glu Arg Glu Ser Phe Val Asp Gln Val Arg Glu Ile
 1170 1175 1180

Ile Glu Lys Ala Asp Glu Met Leu Ser Glu Asp Val Ser Val Glu Pro
 1185 1190 1195 1200

Glu Gly Asp Gln Gly Leu Glu Ser Leu Gln Gly Lys Asp Asp Tyr Gly
 1205 1210 1215

Phe Ser Gly Ser Gln Lys Leu Glu Gly Glu Phe Lys Gln Pro Ile Pro
 1220 1225 1230

Ala Ser Ser Met Pro Gln Gln Ile Gly Ile Pro Thr Ser Ser Leu Thr
 1235 1240 1245

Gln Val Val His Ser Ala Gly Arg Arg Phe Ile Val Ser Pro Val Pro
 1250 1255 1260

Glu Ser Arg Leu Arg Glu Ser Lys Val Phe Pro Ser Glu Ile Thr Asp
 1265 1270 1275 1280

Thr Val Ala Ala Ser Thr Ala Gln Ser Pro Gly Met Asn Leu Ser His
 1285 1290 1295

Ser Ala Ser Ser Leu Ser Leu Gln Gln Ala Phe Ser Glu Leu Arg Arg
 1300 1305 1310

Ala Gln Met Thr Glu Gly Pro Asn Thr Ala Pro Pro Asn Phe Ser His
 1315 1320 1325

Thr Gly Pro Thr Phe Pro Val Val Pro Pro Phe Leu Ser Ser Ile Ala
 1330 1335 1340

Gly Val Pro Thr Thr Ala Ala Ala Thr Ala Pro Val Pro Ala Thr Ser
 1345 1350 1355 1360

Ser Pro Pro Asn Asp Ile Ser Thr Ser Val Ile Gln Ser Glu Val Thr
 1365 1370 1375

Val Pro Thr Glu Glu Gly Ile Ala Gly Val Ala Thr Ser Thr Gly Val
 1380 1385 1390

Val Thr Ser Gly Gly Leu Pro Ile Pro Pro Val Ser Glu Ser Pro Val
1395 1400 1405

Leu Ser Ser Val Val Ser Ser Ile Thr Ile Pro Ala Val Val Ser Ile
1410 1415 1420

Ser Thr Thr Ser Pro Ser Leu Gln Val Pro Thr Ser Thr Ser Glu Ile
1425 1430 1435 1440

Val Val Ser Ser Thr Ala Leu Tyr Pro Ser Val Thr Val Ser Ala Thr
1445 1450 1455

Ser Ala Ser Ala Gly Gly Ser Thr Ala Thr Pro Gly Pro Lys Pro Pro
1460 1465 1470

Ala Val Val Ser Gln Gln Ala Ala Gly Ser Thr Thr Val Gly Ala Thr
1475 1480 1485

Leu Thr Ser Val Ser Thr Thr Thr Ser Phe Pro Ser Thr Ala Ser Gln
1490 1495 1500

Leu Ser Ile Gln Leu Ser Ser Ser Thr Ser Thr Pro Thr Leu Ala Glu
1505 1510 1515 1520

Thr Val Val Val Ser Ala His Ser Leu Asp Lys Thr Ser His Ser Ser
1525 1530 1535

Thr Thr Gly Leu Ala Phe Ser Leu Ser Ala Pro Ser Ser Ser Ser Ser
1540 1545 1550

Pro Gly Ala Gly Val Ser Ser Tyr Ile Ser Gln Pro Gly Gly Leu His
1555 1560 1565

Pro Leu Val Ile Pro Ser Val Ile Ala Ser Thr Pro Ile Leu Pro Gln
1570 1575 1580

Ala Ala Gly Pro Thr Ser Thr Pro Leu Leu Pro Gln Val Pro Ser Ile
1585 1590 1595 1600

Pro Pro Leu Val Gln Pro Val Ala Asn Val Pro Ala Val Gln Gln Thr
1605 1610 1615

Leu Ile His Ser Gln Pro Gln Pro Ala Leu Leu Pro Asn Gln Pro His
1620 1625 1630

Thr His Cys Pro Glu Val Asp Ser Asp Thr Gln Pro Lys Ala Pro Gly
1635 1640 1645

Ile Asp Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser
 1650 1655 1660

Glu His Ser Ser Ser Gly Ala Gln His Ala Ser Val Ser Leu Glu Thr
 1665 1670 1675 1680

Ser Leu Val Ile Glu Ser Thr Val Thr Pro Gly Ile Pro Thr Thr Ala
 1685 1690 1695

Val Ala Pro Ser Lys Leu Leu Thr Ser Thr Thr Ser Thr Cys Leu Pro
 1700 1705 1710

Pro Thr Asn Leu Pro Leu Gly Thr Val Ala Leu Pro Val Thr Pro Val
 1715 1720 1725

Val Thr Pro Gly Gln Val Ser Thr Pro Val Ser Thr Thr Thr Ser Gly
 1730 1735 1740

Val Lys Pro Gly Thr Ala Pro Ser Lys Pro Pro Leu Thr Lys Ala Pro
 1745 1750 1755 1760

Val Leu Pro Val Gly Thr Glu Leu Pro Ala Gly Thr Leu Pro Ser Glu
 1765 1770 1775

Gln Leu Pro Pro Phe Pro Gly Pro Ser Leu Thr Gln Ser Gln Gln Pro
 1780 1785 1790

Leu Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu Ser Pro Glu Ile
 1795 1800 1805

Ile Thr Val Thr Ser Ala Val Gly Pro Val Ser Met Ala Ala Pro Thr
 1810 1815 1820

Ala Ile Thr Glu Ala Gly Thr Gln Pro Gln Lys Gly Val Ser Gln Val
 1825 1830 1835 1840

Lys Glu Gly Pro Val Leu Ala Thr Ser Ser Gly Ala Gly Val Phe Lys
 1845 1850 1855

Met Gly Arg Phe Gln Val Ser Val Ala Ala Asp Gly Ala Gln Lys Glu
 1860 1865 1870

Gly Lys Asn Lys Ser Glu Asp Ala Lys Ser Val His Phe Glu Ser Ser
 1875 1880 1885

Thr Ser Glu Ser Ser Val Leu Ser Ser Ser Ser Pro Glu Ser Thr Leu
 1890 1895 1900

Val Lys Pro Glu Pro Asn Gly Ile Thr Ile Pro Gly Ile Ser Ser Asp			
1905	1910	1915	1920
Val Pro Glu Ser Ala His Lys Thr Thr Ala Ser Glu Ala Lys Ser Asp			
	1925	1930	1935
Thr Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr Thr Ala			
	1940	1945	1950
Asn Lys Val Gly Arg Phe Ser Val Ser Lys Thr Glu Asp Lys Ile Thr			
	1955	1960	1965
Asp Thr Lys Lys Glu Gly Pro Val Ala Ser Pro Pro Phe Met Asp Leu			
	1970	1975	1980
Glu Gln Ala Val Leu Pro Ala Val Ile Pro Lys Lys Glu Lys Pro Glu			
1985	1990	1995	2000
Leu Ser Glu Pro Ser His Leu Asn Gly Pro Ser Ser Asp Pro Glu Ala			
	2005	2010	2015
Ala Phe Leu Ser Arg Asp Val Asp Asp Gly Ser Gly Ser Pro His Ser			
	2020	2025	2030
Pro His Gln Leu Ser Ser Lys Ser Leu Pro Ser Gln Asn Leu Ser Gln			
	2035	2040	2045
Ser Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu			
	2050	2055	2060
Ser Asp Ile Glu Asp Glu Asp Leu Lys Leu Glu Leu Arg Arg Leu Arg			
2065	2070	2075	2080
Asp Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His			
	2085	2090	2095
Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val			
	2100	2105	2110
Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr			
	2115	2120	2125
Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys			
	2130	2135	2140
Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Ala Ala Ser Val			
2145	2150	2155	2160

Leu His Pro Gln Gln Thr Leu His Pro Pro Gly Asn Ile Pro Glu Ser 2175
 2165
 Gly Gln Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp 2190
 2180
 Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Val Pro Ser 2205
 2195
 Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser Thr Asn Thr Val Gly Ala 2220
 2210
 Thr Val Asn Ser Gln Ala Ala Gln Ala Gln Pro Pro Ala Met Thr Ser 2240
 2225
 Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu His Lys Leu Val Asp Asn 2255
 2245
 Trp Ala Arg Asp Ala Met Asn Leu Ser Gly Arg Arg Gly Ser Lys Gly 2270
 2260
 His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser Ala Pro 2285
 2275
 Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Leu Gly Gly Ser Ala Pro 2300
 2290
 Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met 2320
 2305
 Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala Thr Pro Phe Gly Ala Gln 2335
 2325
 Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln 2350
 2340
 Pro Val Gly Thr Ala Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln 2365
 2355
 Lys Ser Ile Ser Asn Pro Pro Gly Ser Asn Leu Arg Thr Thr 2380
 2370

<210> 41
 <211> 251
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: S_TKc,
Serine/Threonine protein kinases domain sequence

<400> 41

```
Val Leu Gly Lys Gly Ala Phe Gly Lys Val Tyr Leu Ala Arg Asp Lys
 1               5               10               15

Lys Thr Gly Lys Leu Val Ala Ile Lys Val Ile Lys Lys Glu Lys Leu
      20               25               30

Lys Lys Lys Lys Arg Glu Arg Ile Leu Arg Glu Ile Lys Ile Leu Lys
      35               40               45

Lys Leu Asp His Pro Asn Ile Val Lys Leu Tyr Asp Val Phe Glu Asp
      50               55               60

Asp Asp Lys Leu Tyr Leu Val Met Glu Tyr Cys Glu Gly Gly Asp Leu
      65               70               75               80

Phe Asp Leu Leu Lys Lys Arg Gly Arg Leu Ser Glu Asp Glu Ala Arg
      85               90               95

Phe Tyr Ala Arg Gln Ile Leu Ser Ala Leu Glu Tyr Leu His Ser Gln
      100              105              110

Gly Ile Ile His Arg Asp Leu Lys Pro Glu Asn Ile Leu Leu Asp Ser
      115              120              125

Asp Gly His Val Lys Leu Ala Asp Phe Gly Leu Ala Lys Gln Leu Asp
      130              135              140

Ser Gly Gly Thr Leu Leu Thr Thr Phe Val Gly Thr Pro Glu Tyr Met
      145              150              155              160

Ala Pro Glu Val Leu Leu Gly Lys Gly Tyr Gly Lys Ala Val Asp Ile
      165              170              175

Trp Ser Leu Gly Val Ile Leu Tyr Glu Leu Leu Thr Gly Lys Pro Pro
      180              185              190

Phe Pro Gly Asp Asp Gln Leu Leu Ala Leu Phe Lys Lys Ile Gly Lys
      195              200              205

Pro Pro Pro Pro Phe Pro Pro Pro Glu Trp Lys Ile Ser Pro Glu Ala
      210              215              220
```

Lys Asp Leu Ile Lys Lys Leu Leu Val Lys Asp Pro Glu Lys Arg Leu
 225 230 235 240

Thr Ala Glu Glu Ala Leu Glu His Pro Phe Phe
 245 250

<210> 42

<211> 251

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pkinase,
 Protein kinase domain sequence

<400> 42

Lys Leu Gly Ser Gly Ala Phe Gly Lys Val Tyr Lys Gly Lys His Lys
 1 5 10 15

Asp Thr Gly Glu Ile Val Ala Ile Lys Ile Leu Lys Lys Arg Ser Leu
 20 25 30

Ser Glu Lys Lys Lys Arg Phe Leu Arg Glu Ile Gln Ile Leu Arg Arg
 35 40 45

Leu Ser His Pro Asn Ile Val Arg Leu Leu Gly Val Phe Glu Glu Asp
 50 55 60

Asp His Leu Tyr Leu Val Met Glu Tyr Met Glu Gly Gly Asp Leu Phe
 65 70 75 80

Asp Tyr Leu Arg Arg Asn Gly Leu Leu Leu Ser Glu Lys Glu Ala Lys
 85 90 95

Lys Ile Ala Leu Gln Ile Leu Arg Gly Leu Glu Tyr Leu His Ser Arg
 100 105 110

Gly Ile Val His Arg Asp Leu Lys Pro Glu Asn Ile Leu Leu Asp Glu
 115 120 125

Asn Gly Thr Val Lys Ile Ala Asp Phe Gly Leu Ala Arg Lys Leu Glu
 130 135 140

Ser Ser Ser Tyr Glu Lys Leu Thr Thr Phe Val Gly Thr Pro Glu Tyr
 145 150 155 160

Met Ala Pro Glu Val Leu Glu Gly Arg Gly Tyr Ser Ser Lys Val Asp

	165		170		175
Val Trp Ser Leu Gly Val Ile Leu Tyr Glu Leu Leu Thr Gly Lys Leu					
	180		185		190
Pro Phe Pro Gly Ile Asp Pro Leu Glu Glu Leu Phe Arg Ile Lys Glu					
	195		200		205
Arg Pro Arg Leu Arg Leu Pro Leu Pro Pro Asn Cys Ser Glu Glu Leu					
	210		215		220
Lys Asp Leu Ile Lys Lys Cys Leu Asn Lys Asp Pro Glu Lys Arg Pro					
225		230		235	240
Thr Ala Lys Glu Ile Leu Asn His Pro Trp Phe					
	245		250		

<210> 43

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TyrKC,
Tyrosine kinase domain sequence

<400> 43

Leu Thr Leu Gly Lys Lys Leu Gly Glu Gly Ala Phe Gly Glu Val Tyr			
1	5	10	15
Lys Gly Thr Leu Lys Gly Lys Gly Gly Val Glu Val Glu Val Ala Val			
20	25	30	
Lys Thr Leu Lys Glu Asp Ala Ser Glu Gln Gln Ile Glu Glu Phe Leu			
35	40	45	
Arg Glu Ala Arg Leu Met Arg Lys Leu Asp His Pro Asn Ile Val Lys			
50	55	60	
Leu Leu Gly Val Cys Thr Glu Glu Glu Pro Leu Met Ile Val Met Glu			
65	70	75	80
Tyr Met Glu Gly Gly Asp Leu Leu Asp Tyr Leu Arg Lys Asn Arg Pro			
85	90	95	
Lys Glu Leu Ser Leu Ser Asp Leu Leu Ser Phe Ala Leu Gln Ile Ala			
100	105	110	

Arg Gly Met Glu Tyr Leu Glu Ser Lys Asn Phe Val His Arg Asp Leu
115 120 125

Ala Ala Arg Asn Cys Leu Val Gly Glu Asn Lys Thr Val Lys Ile Ala
130 135 140

Asp Phe Gly Leu Ala Arg Asp Leu Tyr Asp Asp Asp Tyr Tyr Arg Lys
145 150 155 160

Lys Lys Ser Pro Arg Leu Pro Ile Arg Trp Met Ala Pro Glu Ser Leu
165 170 175

Lys Asp Gly Lys Phe Thr Ser Lys Ser Asp Val Trp Ser Phe Gly Val
180 185 190

Leu Leu Trp Glu Ile Phe Thr Leu Gly Glu Ser Pro Tyr Pro Gly Met
195 200 205

Ser Asn Glu Glu Val Leu Glu Tyr Leu Lys Lys Gly Tyr Arg Leu Pro
210 215 220

Gln Pro Pro Asn Cys Pro Asp Glu Ile Tyr Asp Leu Met Leu Gln Cys
225 230 235 240

Trp Ala Glu Asp Pro Glu Asp Arg Pro Thr Phe Ser Glu Leu
245 250

<210> 44

<211> 314

<212> PRT

<213> Homo sapiens

<400> 44

Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly
1 5 10 15

Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu
20 25 30

Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val
35 40 45

Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala
50 55 60

His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln

65		70		75		80									
Leu	Leu	Tyr	Asn	Leu	Asn	Gly	Cys	Asp	Lys	Thr	Ile	Ser	Tyr	Met	Gly
			85						90					95	
Cys	Ala	Ile	Gln	Leu	Phe	Leu	Phe	Leu	Gly	Leu	Gly	Gly	Val	Glu	Cys
		100						105					110		
Leu	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Cys	Val	Ala	Ile	Cys	Lys
		115						120					125		
Pro	Leu	His	Tyr	Met	Val	Ile	Met	Asn	Pro	Arg	Leu	Cys	Arg	Gly	Leu
		130						135					140		
Val	Ser	Val	Thr	Trp	Gly	Cys	Gly	Val	Ala	Asn	Ser	Leu	Ala	Met	Ser
145					150					155					160
Pro	Val	Thr	Leu	Arg	Leu	Pro	Arg	Cys	Gly	His	His	Glu	Val	Asp	His
				165					170						175
Phe	Leu	Arg	Glu	Met	Pro	Ala	Leu	Ile	Arg	Met	Ala	Cys	Val	Ser	Thr
			180						185					190	
Val	Ala	Ile	Glu	Gly	Thr	Val	Phe	Val	Leu	Lys	Lys	Gly	Val	Val	Leu
		195						200					205		
Ser	Pro	Leu	Val	Phe	Ile	Leu	Leu	Ser	Tyr	Ser	Tyr	Ile	Val	Arg	Ala
		210						215					220		
Val	Leu	Gln	Ile	Arg	Ser	Ala	Ser	Gly	Arg	Gln	Lys	Ala	Phe	Gly	Thr
225					230					235					240
Cys	Gly	Ser	His	Leu	Thr	Val	Val	Ser	Leu	Phe	Tyr	Gly	Asn	Ile	Ile
				245					250					255	
Tyr	Met	Tyr	Met	Gln	Pro	Gly	Ala	Ser	Ser	Ser	Gln	Asp	Gln	Gly	Met
			260					265						270	
Phe	Leu	Met	Leu	Phe	Tyr	Asn	Ile	Val	Thr	Pro	Leu	Leu	Asn	Pro	Leu
			275					280					285		
Ile	Tyr	Thr	Leu	Arg	Asn	Arg	Glu	Val	Lys	Gly	Ala	Leu	Gly	Arg	Leu
		290				295					300				
Leu	Leu	Gly	Lys	Arg	Glu	Leu	Gly	Lys	Glu						
305						310									

<210> 45

<211> 233

<212> PRT

<213> Marmota marmota

<400> 45

Pro Met Tyr Leu Phe Leu Gly Asn Leu Ser Phe Leu Asp Leu Ser Phe
1 5 10 15

Thr Ser Ser Ile Pro Gln Leu Leu His Asn Leu Ser Gly Arg Asp Lys
20 25 30

Thr Ile Ser Tyr Val Gly Cys Val Val Gln Leu Phe Leu Phe Leu Gly
35 40 45

Leu Gly Gly Val Glu Cys Leu Leu Leu Ala Val Ala Tyr Asp Arg Val
50 55 60

Ala Val Cys Lys Pro Leu His Tyr Thr Val Ile Met Ser Ser Arg Leu
65 70 75 80

Cys Leu Gly Leu Val Ser Val Ala Trp Gly Cys Gly Met Ala Asn Ser
85 90 95

Leu Val Met Ser Pro Val Thr Leu Gln Leu Pro Arg Cys Gly His Asn
100 105 110

Lys Val Asp His Phe Leu Cys Glu Met Pro Ala Ile Arg Met Ala Cys
115 120 125

Val Asn Thr Val Ala Ile Glu Gly Thr Val Phe Val Leu Ala Val Gly
130 135 140

Ile Val Leu Ser Pro Leu Val Phe Ile Leu Val Ser Tyr Gly His Ile
145 150 155 160

Val Arg Ala Val Phe Arg Ile Gln Ser Ser Ser Gly Arg His Arg Ile
165 170 175

Phe Asn Thr Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly
180 185 190

Asn Ile Ile Tyr Met Tyr Met Gln Pro Gly Ser Arg Ser Ser Gln Asp
195 200 205

Gln Gly Lys Phe Leu Thr Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu
210 215 220

Asn Pro Phe Ile Tyr Ser Leu Arg Asn
 225 230

<210> 46
 <211> 320
 <212> PRT
 <213> Homo sapiens

<400> 46
 Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
 1 5 10 15
 Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
 20 25 30
 Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
 35 40 45
 Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60
 Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
 65 70 75 80
 Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly
 85 90 95
 Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys
 100 105 110
 Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys
 115 120 125
 Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met
 130 135 140
 Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys
 145 150 155 160
 Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His
 165 170 175
 Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr
 180 185 190
 Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu
 195 200 205

Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala
 210 215 220
 Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr
 225 230 235 240
 Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile
 245 250 255
 Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys
 260 265 270
 Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu
 275 280 285
 Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Lys Leu
 290 295 300
 Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser
 305 310 315 320

<210> 47

<211> 320

<212> PRT

<213> Homo sapiens

<400> 47

Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
 1 5 10 15
 Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
 20 25 30
 Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
 35 40 45
 Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60
 Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
 65 70 75 80
 Val Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly

85								90				95			
Cys	Ile	Ile	Gln	Leu	Tyr	Val	Tyr	Met	Trp	Leu	Gly	Ser	Val	Glu	Cys
100				105				110							
Leu	Leu	Leu	Ala	Val	Met	Ser	Tyr	Asp	Arg	Phe	Thr	Ala	Ile	Cys	Lys
115				120				125							
Pro	Leu	His	Tyr	Phe	Val	Val	Met	Asn	Pro	His	Leu	Cys	Leu	Lys	Met
130				135				140							
Ile	Ile	Met	Ile	Trp	Ser	Ile	Ser	Leu	Ala	Asn	Ser	Val	Val	Leu	Cys
145		150				155				160					
Thr	Leu	Thr	Leu	Asn	Leu	Pro	Thr	Cys	Gly	Asn	Asn	Ile	Leu	Asp	His
165				170				175							
Phe	Leu	Cys	Glu	Leu	Pro	Ala	Leu	Val	Lys	Ile	Ala	Cys	Val	Asp	Thr
180				185				190							
Thr	Thr	Val	Glu	Met	Ser	Val	Phe	Ala	Leu	Gly	Ile	Ile	Ile	Val	Leu
195				200				205							
Thr	Pro	Leu	Ile	Leu	Ile	Leu	Ile	Ser	Tyr	Gly	Tyr	Ile	Ala	Lys	Ala
210				215				220							
Val	Leu	Arg	Thr	Lys	Ser	Lys	Ala	Ser	Gln	Arg	Lys	Ala	Met	Asn	Thr
225		230				235				240					
Cys	Gly	Ser	His	Leu	Thr	Val	Val	Ser	Met	Phe	Tyr	Gly	Thr	Ile	Ile
245				250				255							
Tyr	Met	Tyr	Leu	Gln	Pro	Gly	Asn	Arg	Ala	Ser	Lys	Asp	Gln	Gly	Lys
260				265				270							
Phe	Leu	Thr	Leu	Phe	Tyr	Thr	Val	Ile	Thr	Pro	Ser	Leu	Asn	Pro	Leu
275				280				285							
Ile	Tyr	Thr	Leu	Arg	Asn	Lys	Asp	Met	Lys	Asp	Ala	Leu	Lys	Lys	Leu
290		295				300									
Met	Arg	Phe	His	His	Lys	Ser	Thr	Lys	Ile	Lys	Arg	Asn	Cys	Lys	Ser
305		310				315				320					

<210> 48
 <211> 320
 <212> PRT
 <213> Homo sapiens

<400> 48
 Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
 1 5 10 15
 Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
 20 25 30
 Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
 35 40 45
 Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60
 Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
 65 70 75 80
 Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly
 85 90 95
 Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys
 100 105 110
 Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys
 115 120 125
 Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met
 130 135 140
 Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys
 145 150 155 160
 Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His
 165 170 175
 Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr
 180 185 190
 Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu
 195 200 205
 Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala
 210 215 220

Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr
 225 230 235 240
 Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile
 245 250 255
 Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys
 260 265 270
 Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu
 275 280 285
 Ile Tyr Thr Leu Arg Asn Lys Asn Met Lys Asp Ala Leu Lys Lys Leu
 290 295 300
 Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser
 305 310 315 320

<210> 49

<211> 253

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 7tm_1, 7
 transmembrane receptor domain sequence

<400> 49

Gly Asn Leu Leu Val Ile Leu Val Ile Leu Arg Thr Lys Lys Leu Arg
 1 5 10 15
 Thr Pro Thr Asn Ile Phe Leu Leu Asn Leu Ala Val Ala Asp Leu Leu
 20 25 30
 Phe Leu Leu Thr Leu Pro Pro Trp Ala Leu Tyr Tyr Leu Val Gly Gly
 35 40 45
 Asp Trp Val Phe Gly Asp Ala Leu Cys Lys Leu Gly Ala Leu Phe Val
 50 55 60
 Val Asn Gly Tyr Ala Ser Ile Leu Leu Leu Thr Ala Ile Ser Ile Asp
 65 70 75 80
 Arg Tyr Leu Ala Ile Val His Pro Leu Arg Tyr Arg Arg Ile Arg Thr

85					90					95						
Pro	Arg	Arg	Ala	Lys	Val	Leu	Ile	Leu	Leu	Val	Trp	Val	Leu	Ala	Leu	
100					105					110						
Leu	Leu	Ser	Leu	Pro	Pro	Leu	Leu	Phe	Ser	Trp	Leu	Arg	Thr	Val	Glu	
115					120					125						
Glu	Gly	Asn	Thr	Thr	Val	Cys	Leu	Ile	Asp	Phe	Pro	Glu	Glu	Ser	Val	
130					135					140						
Lys	Arg	Ser	Tyr	Val	Leu	Leu	Ser	Thr	Leu	Val	Gly	Phe	Val	Leu	Pro	
145					150					155					160	
Leu	Leu	Val	Ile	Leu	Val	Cys	Tyr	Thr	Arg	Ile	Leu	Arg	Thr	Leu	Arg	
165					170					175						
Lys	Arg	Ala	Arg	Ser	Gln	Arg	Ser	Leu	Lys	Arg	Arg	Ser	Ser	Ser	Glu	
180					185					190						
Arg	Lys	Ala	Ala	Lys	Met	Leu	Leu	Val	Val	Val	Val	Val	Phe	Val	Leu	
195					200					205						
Cys	Trp	Leu	Pro	Tyr	His	Ile	Val	Leu	Leu	Leu	Asp	Ser	Leu	Cys	Leu	
210					215					220						
Leu	Ser	Ile	Trp	Arg	Val	Leu	Pro	Thr	Ala	Leu	Leu	Ile	Thr	Leu	Trp	
225					230					235					240	
Leu	Ala	Tyr	Val	Asn	Ser	Cys	Leu	Asn	Pro	Ile	Ile	Tyr				
245					250											

<210> 50

<211> 315

<212> PRT

<213> Homo sapiens

<400> 50

Met	Ala	Gln	Leu	Gly	Gly	Ala	Ala	Asn	Arg	Ala	Pro	Thr	Ala	Ser	Leu
1				5					10					15	

Ala	Pro	Thr	Ser	Gln	Ser	Leu	Arg	Cys	Ala	Pro	Gln	Pro	Arg	Pro	Ser
20					25					30					

Arg	Ala	Asp	Thr	Gly	Ser	Leu	Gly	Arg	Tyr	Trp	Gly	Lys	Ala	Ala	Ala
35					40					45					

Ala Ala Ser Arg Glu His Pro Phe Pro Gly Thr Leu Met His Ser Ala
 50 55 60

Ala Gly Ser Gly Arg Arg Arg Gly Ala Leu Arg Glu Leu Leu Gly Leu
 65 70 75 80

Gln Arg Ala Ala Pro Ala Gly Trp Leu Ser Glu Glu Arg Ala Glu Glu
 85 90 95

Leu Gly Gly Pro Ser Gly Pro Gly Ser Ser Arg Leu Cys Leu Glu Pro
 100 105 110

Arg Glu His Ala Trp Ile Leu Ala Ala Ala Glu Gly Arg Tyr Glu Val
 115 120 125

Leu Arg Glu Leu Leu Glu Ala Glu Pro Glu Leu Leu Leu Arg Gly Asp
 130 135 140

Pro Ile Thr Gly Tyr Ser Val Leu His Trp Leu Ala Lys His Gly Arg
 145 150 155 160

His Glu Glu Leu Ile Leu Val His Asp Phe Ala Leu Arg Arg Gly Leu
 165 170 175

Arg Leu Asp Val Ser Ala Pro Gly Ser Gly Gly Leu Thr Pro Leu His
 180 185 190

Leu Ala Ala Leu Gln Gly His Asp Met Val Ile Lys Val Leu Val Gly
 195 200 205

Ala Leu Gly Ala Asp Ala Thr Arg Arg Asp His Ser Gly His Arg Ala
 210 215 220

Cys His Tyr Leu Arg Pro Asp Ala Pro Trp Arg Leu Arg Glu Leu Ser
 225 230 235 240

Gly Ala Glu Glu Trp Glu Met Glu Ser Gly Ser Gly Cys Thr Asn Leu
 245 250 255

Asn Asn Asn Ser Ser Gly Thr Thr Ala Trp Arg Ala Ala Ser Ala Val
 260 265 270

Gly Ala Thr Ala Val Glu Thr Ser Arg Arg Val Ala Ala Ser Arg Thr
 275 280 285

Lys Ala Lys Asp Thr Ala Gly Ser Arg Val Ala Gln Met His Ser Leu
 290 295 300

Phe Arg His Leu Phe Pro Ser Phe Gln Asp Arg
 305 310 315

<210> 51
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: domain
 sequence

<400> 51
 Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu Val
 1 5 10 15
 Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn Ala Arg Asp Lys
 20 25 30

<210> 52
 <211> 2062
 <212> PRT
 <213> Homo sapiens

<400> 52
 Met Pro Lys Ser Gly Phe Thr Lys Pro Ile Gln Ser Glu Asn Ser Asp
 1 5 10 15
 Ser Asp Ser Asn Met Val Glu Lys Pro Tyr Gly Arg Lys Ser Lys Asp
 20 25 30
 Lys Ile Ala Ser Tyr Ser Lys Thr Pro Lys Ile Glu Arg Ser Asp Val
 35 40 45
 Ser Lys Glu Met Lys Glu Lys Ser Ser Met Lys Arg Lys Leu Pro Phe
 50 55 60
 Thr Ile Ser Pro Ser Arg Asn Glu Glu Arg Asp Ser Asp Thr Asp Ser
 65 70 75 80
 Asp Pro Gly His Thr Ser Glu Asn Trp Gly Glu Arg Leu Ile Ser Ser
 85 90 95

Tyr	Arg	Thr	Tyr	Ser	Glu	Lys	Glu	Gly	Pro	Glu	Lys	Lys	Lys	Thr	Lys	100	105	110	
Lys	Glu	Ala	Gly	Asn	Lys	Lys	Ser	Thr	Pro	Val	Ser	Ile	Leu	Phe	Gly	115	120	125	
Tyr	Pro	Leu	Ser	Glu	Arg	Lys	Gln	Met	Ala	Leu	Leu	Met	Gln	Met	Thr	130	135	140	
Ala	Arg	Asp	Asn	Ser	Pro	Asp	Ser	Thr	Pro	Asn	His	Pro	Ser	Gln	Thr	145	150	155	160
Thr	Pro	Ala	Gln	Lys	Lys	Thr	Pro	Ser	Ser	Ser	Ser	Arg	Gln	Lys	Asp	165	170	175	
Lys	Val	Asn	Lys	Arg	Asn	Glu	Arg	Gly	Glu	Thr	Pro	Leu	His	Met	Ala	180	185	190	
Ala	Ile	Arg	Gly	Asp	Val	Lys	Gln	Val	Lys	Glu	Leu	Ile	Ser	Leu	Gly	195	200	205	
Ala	Asn	Val	Asn	Val	Lys	Asp	Phe	Ala	Gly	Trp	Thr	Pro	Leu	His	Glu	210	215	220	
Ala	Cys	Asn	Val	Gly	Tyr	Tyr	Asp	Val	Ala	Lys	Ile	Leu	Ile	Ala	Ala	225	230	235	240
Gly	Ala	Asp	Val	Asn	Thr	Gln	Gly	Leu	Asp	Asp	Asp	Thr	Pro	Leu	His	245	250	255	
Asp	Ser	Ala	Ser	Ser	Gly	His	Arg	Asp	Ile	Val	Lys	Leu	Leu	Leu	Arg	260	265	270	
His	Gly	Gly	Asn	Pro	Phe	Gln	Ala	Asn	Lys	His	Gly	Glu	Arg	Pro	Val	275	280	285	
Asp	Val	Ala	Glu	Thr	Glu	Glu	Leu	Glu	Leu	Leu	Leu	Lys	Arg	Glu	Val	290	295	300	
Pro	Leu	Ser	Asp	Asp	Asp	Glu	Ser	Tyr	Thr	Asp	Ser	Glu	Glu	Ala	Gln	305	310	315	320
Ser	Val	Asn	Pro	Ser	Ser	Val	Asp	Glu	Asn	Ile	Asp	Ser	Glu	Thr	Glu	325	330	335	
Lys	Asp	Ser	Leu	Ile	Cys	Glu	Ser	Lys	Gln	Ile	Leu	Pro	Ser	Lys	Thr	340	345	350	

Pro	Leu	Pro	Ser	Ala	Leu	Asp	Glu	Tyr	Glu	Phe	Lys	Asp	Asp	Asp	Asp	355	360	365	
Glu	Glu	Ile	Asn	Lys	Met	Ile	Asp	Asp	Arg	His	Ile	Leu	Arg	Lys	Glu	370	375	380	
Gln	Arg	Lys	Glu	Asn	Glu	Pro	Glu	Ala	Glu	Lys	Thr	His	Leu	Phe	Ala	385	390	395	400
Lys	Gln	Glu	Lys	Ala	Phe	Tyr	Pro	Lys	Ser	Phe	Lys	Ser	Lys	Lys	Gln	405	410	415	
Lys	Pro	Ser	Arg	Val	Leu	Tyr	Ser	Ser	Thr	Glu	Ser	Ser	Asp	Glu	Glu	420	425	430	
Ala	Leu	Gln	Asn	Lys	Lys	Ile	Ser	Thr	Ser	Cys	Ser	Val	Ile	Pro	Glu	435	440	445	
Thr	Ser	Asn	Ser	Asp	Met	Gln	Thr	Lys	Lys	Glu	Tyr	Val	Val	Ser	Gly	450	455	460	
Glu	His	Lys	Gln	Lys	Gly	Lys	Val	Lys	Arg	Lys	Leu	Lys	Asn	Gln	Asn	465	470	475	480
Lys	Asn	Lys	Glu	Asn	Gln	Glu	Leu	Lys	Gln	Glu	Lys	Glu	Gly	Lys	Glu	485	490	495	
Asn	Thr	Arg	Ile	Thr	Asn	Leu	Thr	Val	Asn	Thr	Gly	Leu	Asp	Cys	Ser	500	505	510	
Glu	Lys	Thr	Arg	Glu	Glu	Gly	Asn	Phe	Arg	Lys	Ser	Phe	Ser	Pro	Lys	515	520	525	
Asp	Asp	Thr	Ser	Leu	His	Leu	Phe	His	Ile	Ser	Thr	Gly	Lys	Ser	Pro	530	535	540	
Lys	His	Ser	Cys	Gly	Leu	Ser	Glu	Lys	Gln	Ser	Thr	Pro	Leu	Lys	Gln	545	550	555	560
Glu	His	Thr	Lys	Thr	Cys	Leu	Ser	Pro	Gly	Ser	Ser	Glu	Met	Ser	Leu	565	570	575	
Gln	Pro	Asp	Leu	Val	Arg	Tyr	Asp	Asn	Thr	Glu	Ser	Glu	Phe	Leu	Pro	580	585	590	
Glu	Ser	Ser	Ser	Val	Lys	Ser	Cys	Lys	His	Lys	Glu	Lys	Ser	Lys	His	595	600	605	

Gln Lys Asp Phe His Leu Glu Phe Gly Glu Lys Ser Asn Ala Lys Ile			
610	615	620	
Lys Asp Glu Asp His Ser Pro Thr Phe Glu Asn Ser Asp Cys Thr Leu			
625	630	635	640
Lys Lys Met Asp Lys Glu Gly Lys Thr Leu Lys Lys His Lys Leu Lys			
	645	650	655
His Lys Glu Arg Glu Lys Glu Lys His Lys Lys Glu Ile Glu Gly Glu			
	660	665	670
Lys Glu Lys Tyr Lys Thr Lys Asp Ser Ala Lys Glu Leu Gln Arg Ser			
	675	680	685
Val Glu Phe Asp Arg Glu Phe Trp Lys Glu Asn Phe Phe Lys Ser Asp			
	690	695	700
Glu Thr Glu Asp Leu Phe Leu Asn Met Glu His Glu Ser Leu Thr Leu			
705	710	715	720
Glu Lys Lys Ser Lys Leu Glu Lys Asn Ile Lys Asp Asp Lys Ser Thr			
	725	730	735
Lys Glu Lys His Val Ser Lys Glu Arg Asn Phe Lys Glu Glu Arg Asp			
	740	745	750
Lys Ile Lys Lys Glu Ser Glu Lys Ser Phe Arg Glu Glu Lys Ile Lys			
	755	760	765
Asp Leu Lys Glu Glu Arg Glu Asn Ile Pro Thr Asp Lys Asp Ser Glu			
	770	775	780
Phe Thr Ser Leu Gly Met Ser Ala Ile Glu Glu Ser Ile Gly Leu His			
785	790	795	800
Leu Val Glu Lys Glu Ile Asp Ile Glu Lys Gln Glu Lys His Ile Lys			
	805	810	815
Glu Ser Lys Glu Lys Pro Glu Lys Arg Ser Gln Ile Lys Glu Lys Asp			
	820	825	830
Ile Glu Lys Met Glu Arg Lys Thr Phe Glu Lys Glu Lys Lys Ile Lys			
	835	840	845
His Glu His Lys Ser Glu Lys Asp Lys Leu Asp Leu Ser Glu Cys Val			
	850	855	860

Asp Lys Ile Lys Glu Lys Asp Lys Leu Tyr Ser His His Thr Glu Lys			
865	870	875	880
Cys His Lys Glu Gly Glu Lys Ser Lys Asn Thr Ala Ala Ile Lys Lys			
	885	890	895
Thr Asp Asp Arg Glu Lys Ser Arg Glu Lys Met Asp Arg Lys His Asp			
	900	905	910
Lys Glu Lys Pro Glu Lys Glu Arg His Leu Ala Glu Ser Lys Glu Lys			
	915	920	925
His Leu Met Glu Lys Lys Asn Lys Gln Ser Asp Asn Ser Glu Tyr Ser			
	930	935	940
Lys Ser Glu Lys Gly Lys Asn Lys Glu Lys Asp Arg Glu Leu Asp Lys			
945	950	955	960
Lys Glu Lys Ser Arg Asp Lys Glu Ser Ile Asn Ile Thr Asn Ser Lys			
	965	970	975
His Ile Gln Glu Glu Lys Lys Ser Ser Ile Val Asp Gly Asn Lys Ala			
	980	985	990
Gln His Glu Lys Pro Leu Ser Leu Lys Glu Lys Thr Lys Asp Glu Pro			
	995	1000	1005
Leu Lys Thr Pro Asp Gly Lys Glu Lys Asp Lys Lys Asp Lys Asp Ile			
1010	1015	1020	
Asp Arg Tyr Lys Glu Arg Asp Lys His Lys Asp Lys Ile Gln Ile Asn			
1025	1030	1035	1040
Ser Leu Leu Lys Leu Lys Ser Glu Ala Asp Lys Pro Lys Pro Lys Ser			
	1045	1050	1055
Ser Pro Ala Ser Lys Asp Thr Arg Pro Lys Glu Lys Arg Leu Val Asn			
	1060	1065	1070
Asp Asp Leu Met Gln Thr Ser Phe Glu Arg Met Leu Ser Leu Lys Asp			
1075	1080	1085	
Leu Glu Ile Glu Gln Trp His Lys Lys His Lys Glu Lys Ile Lys Gln			
1090	1095	1100	
Lys Glu Lys Glu Arg Leu Arg Asn Arg Asn Cys Leu Glu Leu Lys Ile			
1105	1110	1115	1120

Lys Asp Lys Glu Lys Thr Lys His Thr Pro Thr Glu Ser Lys Asn Lys			
1125	1130	1135	
Glu Leu Thr Arg Ser Lys Ser Ser Glu Val Thr Asp Ala Tyr Thr Lys			
1140	1145	1150	
Glu Lys Gln Pro Lys Asp Ala Val Ser Asn Arg Ser Gln Ser Val Asp			
1155	1160	1165	
Thr Lys Asn Val Met Thr Leu Gly Lys Ser Ser Phe Val Ser Asp Asn			
1170	1175	1180	
Ser Leu Asn Arg Ser Pro Arg Ser Glu Asn Glu Lys Pro Gly Leu Ser			
1185	1190	1195	1200
Ser Arg Ser Val Ser Met Ile Ser Val Ala Ser Ser Glu Asp Ser Cys			
1205	1210	1215	
His Thr Thr Val Thr Thr Pro Arg Pro Pro Val Glu Tyr Asp Ser Asp			
1220	1225	1230	
Phe Met Leu Glu Ser Ser Glu Ser Gln Met Ser Phe Ser Gln Ser Pro			
1235	1240	1245	
Phe Leu Ser Ile Ala Lys Ser Pro Ala Leu His Glu Arg Glu Leu Asp			
1250	1255	1260	
Ser Leu Ala Asp Leu Pro Glu Arg Ile Lys Pro Pro Tyr Ala Asn Arg			
1265	1270	1275	1280
Leu Ser Thr Ser His Leu Arg Ser Ser Ser Val Glu Asp Val Lys Leu			
1285	1290	1295	
Ile Ile Ser Glu Gly Arg Pro Thr Ile Glu Val Arg Arg Cys Ser Met			
1300	1305	1310	
Pro Ser Val Ile Cys Glu His Thr Lys Gln Phe Gln Thr Ile Ser Glu			
1315	1320	1325	
Glu Ser Asn Gln Gly Ser Leu Leu Thr Val Pro Gly Asp Thr Ser Pro			
1330	1335	1340	
Ser Pro Lys Pro Glu Val Phe Ser Asn Val Pro Glu Arg Asp Leu Ser			
1345	1350	1355	1360
Asn Val Ser Asn Ile His Ser Ser Phe Ala Thr Ser Pro Thr Gly Ala			
1365	1370	1375	

Ser Asn Ser Lys Tyr Val Ser Ala Asp Arg Asn Leu Ile Lys Asn Thr			
1380	1385	1390	
Ala Pro Val Asn Thr Val Met Asp Ser Pro Val His Leu Glu Pro Ser			
1395	1400	1405	
Ser Gln Val Gly Val Ile Gln Asn Lys Ser Trp Glu Met Pro Val Asp			
1410	1415	1420	
Arg Leu Glu Thr Leu Ser Thr Arg Asp Phe Ile Cys Pro Asn Ser Asn			
1425	1430	1435	1440
Ile Pro Asp Gln Glu Ser Ser Leu Gln Ser Phe Cys Asn Ser Glu Asn			
1445	1450	1455	
Lys Val Leu Lys Glu Asn Ala Asp Phe Leu Ser Leu Arg Gln Thr Glu			
1460	1465	1470	
Leu Pro Gly Asn Ser Cys Ala Gln Asp Pro Ala Ser Phe Met Pro Pro			
1475	1480	1485	
Gln Gln Pro Cys Ser Phe Pro Ser Gln Ser Leu Ser Asp Ala Glu Ser			
1490	1495	1500	
Ile Ser Lys His Met Ser Leu Ser Tyr Val Ala Asn Gln Glu Pro Gly			
1505	1510	1515	1520
Ile Leu Gln Gln Lys Asn Ala Val Gln Ile Ile Ser Ser Ala Leu Asp			
1525	1530	1535	
Thr Asp Asn Glu Ser Thr Lys Asp Thr Glu Asn Thr Phe Val Leu Gly			
1540	1545	1550	
Asp Val Gln Lys Thr Asp Ala Phe Val Pro Val Tyr Ser Asp Ser Thr			
1555	1560	1565	
Ile Gln Glu Ala Ser Pro Asn Phe Glu Lys Ala Tyr Thr Leu Pro Val			
1570	1575	1580	
Leu Pro Ser Glu Lys Asp Phe Asn Gly Ser Asp Ala Ser Thr Gln Leu			
1585	1590	1595	1600
Asn Thr His Tyr Ala Phe Ser Lys Leu Thr Tyr Lys Ser Ser Ser Gly			
1605	1610	1615	
His Glu Val Glu Asn Ser Thr Thr Asp Thr Gln Val Ile Ser His Glu			
1620	1625	1630	

Lys Glu Asn Lys Leu Glu Ser Leu Val Leu Thr His Leu Ser Arg Cys			
1635	1640	1645	
Asp Ser Asp Leu Cys Glu Met Asn Ala Gly Met Pro Lys Gly Asn Leu			
1650	1655	1660	
Asn Glu Gln Asp Pro Lys His Cys Pro Glu Ser Glu Lys Cys Leu Leu			
1665	1670	1675	1680
Ser Ile Glu Asp Glu Glu Ser Gln Gln Ser Ile Leu Ser Ser Leu Glu			
1685	1690	1695	
Asn His Ser Gln Gln Ser Thr Gln Pro Glu Met His Lys Tyr Gly Gln			
1700	1705	1710	
Leu Val Lys Val Glu Leu Glu Glu Asn Ala Glu Asp Asp Lys Thr Glu			
1715	1720	1725	
Asn Gln Ile Pro Gln Arg Met Thr Arg Asn Lys Ala Asn Thr Met Ala			
1730	1735	1740	
Asn Gln Ser Lys Gln Ile Leu Ala Ser Cys Thr Leu Leu Ser Glu Lys			
1745	1750	1755	1760
Asp Ser Glu Ser Ser Ser Pro Arg Gly Arg Ile Arg Leu Thr Glu Asp			
1765	1770	1775	
Asp Asp Pro Gln Ile His His Pro Arg Lys Arg Lys Val Ser Arg Val			
1780	1785	1790	
Pro Gln Pro Val Gln Val Ser Pro Ser Leu Leu Gln Ala Lys Glu Lys			
1795	1800	1805	
Thr Gln Gln Ser Leu Ala Ala Ile Val Asp Ser Leu Lys Leu Asp Glu			
1810	1815	1820	
Ile Gln Pro Tyr Ser Ser Glu Arg Ala Asn Pro Tyr Phe Glu Tyr Leu			
1825	1830	1835	1840
His Ile Arg Lys Lys Ile Glu Glu Lys Arg Lys Leu Leu Cys Ser Val			
1845	1850	1855	
Ile Pro Gln Ala Pro Gln Tyr Tyr Asp Glu Tyr Val Thr Phe Asn Gly			
1860	1865	1870	
Ser Tyr Leu Leu Asp Gly Asn Pro Leu Ser Lys Ile Cys Ile Pro Thr			
1875	1880	1885	

Ile Thr Pro Pro Pro Ser Leu Ser Asp Pro Leu Lys Glu Leu Phe Arg
 1890 1895 1900

Gln Gln Glu Val Val Arg Met Lys Leu Arg Leu Gln His Ser Ile Glu
 1905 1910 1915 1920

Arg Glu Lys Leu Ile Val Ser Asn Glu Gln Glu Val Leu Arg Val His
 1925 1930 1935

Tyr Arg Ala Ala Arg Thr Leu Ala Asn Gln Thr Leu Pro Phe Ser Ala
 1940 1945 1950

Cys Thr Val Leu Leu Asp Ala Glu Val Tyr Asn Val Pro Leu Asp Ser
 1955 1960 1965

Gln Ser Asp Asp Ser Lys Thr Ser Val Arg Asp Arg Phe Asn Ala Arg
 1970 1975 1980

Gln Phe Met Ser Trp Leu Gln Asp Val Asp Asp Lys Phe Asp Lys Leu
 1985 1990 1995 2000

Lys Thr Cys Leu Leu Met Arg Gln Gln His Glu Ala Ala Ala Leu Asn
 2005 2010 2015

Ala Val Gln Arg Leu Glu Trp Gln Leu Lys Leu Gln Glu Leu Asp Pro
 2020 2025 2030

Ala Thr Tyr Lys Ser Ile Ser Ile Tyr Glu Ile Gln Glu Phe Tyr Val
 2035 2040 2045

Pro Leu Val Asp Val Asn Asp Asp Phe Glu Leu Thr Pro Ile
 2050 2055 2060

<210> 53
 <211> 399
 <212> PRT
 <213> Homo sapiens

<400> 53
 Met Pro Gln Ser Ser Ala Lys Asp Tyr Leu Gly Glu Tyr Cys Ile Leu
 1 5 10 15

Lys Ala Gln Ala Ala Asp Gly Ala Gly Pro Glu Asp Asp Thr Glu Ala
 20 25 30

Ser Arg Ala Ala Ala Pro Ala Glu Gly Pro Pro Gly Gly Ile Gln Pro
 35 40 45

Glu	Ala	Ala	Glu	Pro	Lys	Pro	Thr	Ala	Glu	Ala	Pro	Lys	Ala	Pro	Arg	50	55	60	
Val	Glu	Glu	Ile	Pro	Gln	Arg	Met	Thr	Arg	Asn	Arg	Ala	Gln	Met	Leu	65	70	75	80
Ala	Asn	Gln	Ser	Lys	Gln	Gly	Pro	Pro	Pro	Ser	Glu	Lys	Glu	Cys	Ala	85	90	95	
Pro	Thr	Pro	Ala	Pro	Val	Thr	Arg	Ala	Lys	Ala	Arg	Gly	Ser	Glu	Asp	100	105	110	
Asp	Asp	Ala	Gln	Ala	Gln	His	Pro	Arg	Lys	Arg	Arg	Phe	Gln	Arg	Ser	115	120	125	
Thr	Gln	Gln	Leu	Gln	Gln	Gln	Leu	Asn	Thr	Ser	Thr	Gln	Gln	Thr	Arg	130	135	140	
Glu	Val	Ile	Gln	Gln	Thr	Leu	Ala	Ala	Ile	Val	Asp	Ala	Ile	Lys	Leu	145	150	155	160
Asp	Ala	Ile	Glu	Pro	Tyr	His	Ser	Asp	Arg	Ala	Asn	Pro	Tyr	Phe	Glu	165	170	175	
Tyr	Leu	Gln	Ile	Arg	Lys	Lys	Ile	Glu	Glu	Lys	Arg	Lys	Ile	Leu	Cys	180	185	190	
Cys	Ile	Thr	Pro	Gln	Ala	Pro	Gln	Trp	Tyr	Ala	Gln	Tyr	Val	Thr	Tyr	195	200	205	
Thr	Gly	Ser	Tyr	Leu	Leu	Asp	Gly	Lys	Pro	Leu	Ser	Lys	Leu	His	Ile	210	215	220	
Pro	Val	Ile	Ala	Pro	Pro	Pro	Ser	Leu	Ala	Glu	Pro	Leu	Lys	Glu	Leu	225	230	235	240
Phe	Arg	Gln	Gln	Glu	Ala	Val	Arg	Gly	Lys	Leu	Arg	Leu	Gln	His	Ser	245	250	255	
Ile	Glu	Arg	Glu	Lys	Leu	Ile	Val	Ser	Cys	Glu	Gln	Glu	Ile	Leu	Arg	260	265	270	
Val	His	Cys	Arg	Ala	Ala	Arg	Thr	Ile	Ala	Asn	Gln	Ala	Val	Pro	Phe	275	280	285	
Ser	Thr	Cys	Thr	Met	Leu	Leu	Asp	Ser	Glu	Val	Tyr	Asn	Met	Pro	Leu	290	295	300	

Glu Ser Gln Gly Asp Glu Asn Lys Ser Val Arg Asp Arg Phe Asn Ala
 305 310 315 320

Arg Gln Phe Ile Ser Trp Leu Gln Asp Val Asp Asp Lys Tyr Asp Arg
 325 330 335

Met Lys Thr Cys Leu Leu Met Arg Gln Gln His Glu Ala Ala Ala Leu
 340 345 350

Asn Ala Val Gln Arg Met Glu Trp Gln Leu Lys Val Gln Glu Leu Asp
 355 360 365

Pro Ala Gly His Lys Ser Leu Cys Val Asn Glu Val Pro Ser Phe Tyr
 370 375 380

Val Pro Met Val Asp Val Asn Asp Asp Phe Val Leu Leu Pro Ala
 385 390 395

<210> 54
 <211> 366
 <212> PRT
 <213> Homo sapiens

<400> 54
 Met Pro Lys Gly Gly Cys Pro Lys Ala Pro Gln Gln Glu Glu Leu Pro
 1 5 10 15

Leu Ser Ser Asp Met Val Glu Lys Gln Thr Gly Lys Lys Asp Lys Asp
 20 25 30

Lys Val Ser Leu Thr Lys Thr Pro Lys Leu Glu Arg Gly Asp Gly Gly
 35 40 45

Lys Glu Val Arg Glu Arg Ala Ser Lys Arg Lys Leu Pro Phe Thr Ala
 50 55 60

Gly Ala Asn Gly Glu Gln Lys Asp Ser Asp Thr Glu Lys Gln Gly Pro
 65 70 75 80

Glu Arg Lys Arg Ile Lys Lys Glu Pro Val Thr Arg Lys Ala Gly Leu
 85 90 95

Leu Phe Gly Met Gly Leu Ser Gly Ile Arg Ala Gly Tyr Pro Leu Ser
 100 105 110

Glu Arg Gln Gln Val Ala Leu Leu Met Gln Met Thr Ala Glu Glu Ser

115		120		125
Ala Asn Ser Pro Val Asp Thr Thr Pro Lys His Pro Ser Gln Ser Thr				
130		135		140
Val Cys Gln Lys Gly Thr Pro Asn Ser Ala Ser Lys Thr Lys Asp Lys				
145		150		155
				160
Leu Asn Lys Arg Asn Glu Arg Gly Glu Thr Arg Leu His Arg Ala Ala				
	165		170	175
Ile Arg Gly Asp Ala Arg Arg Ile Lys Glu Leu Ile Ser Glu Gly Ala				
	180		185	190
Asp Val Asn Val Lys Asp Phe Ala Gly Trp Thr Ala Leu His Glu Ala				
	195		200	205
Cys Asn Arg Gly Tyr Tyr Asp Val Ala Lys Gln Leu Leu Ala Ala Gly				
	210		215	220
Ala Glu Val Asn Thr Lys Gly Leu Asp Asp Asp Thr Pro Leu His Asp				
	225		230	235
				240
Ala Ala Asn Asn Gly His Tyr Lys Val Val Lys Leu Leu Leu Arg Tyr				
	245		250	255
Gly Gly Asn Pro Gln Gln Ser Asn Arg Lys Gly Glu Thr Pro Leu Lys				
	260		265	270
Val Ala Asn Ser Pro Thr Met Val Asn Leu Leu Leu Gly Lys Gly Thr				
	275		280	285
Tyr Thr Ser Ser Glu Glu Ser Ser Thr Glu Ser Ser Glu Glu Glu Asp				
	290		295	300
Ala Pro Ser Phe Ala Pro Ser Ser Ser Val Asp Gly Asn Asn Thr Asp				
	305		310	315
				320
Ser Glu Phe Glu Lys Gly Ser Ser Thr Arg Pro Arg Thr Gln Ser His				
	325		330	335
Arg Arg Pro Arg Pro Pro Ser Arg Thr Ser Met Ser Leu Met Arg Thr				
	340		345	350
Thr Ser Arg Thr Gly Phe Leu Arg Trp Thr Thr Ser Thr Tyr				
	355		360	365

<210> 55
 <211> 366
 <212> PRT
 <213> Homo sapiens

<400> 55
 Met Pro Lys Gly Gly Cys Pro Lys Ala Pro Gln Gln Glu Glu Leu Pro
 1 5 10 15
 Leu Ser Ser Asp Met Val Glu Lys Gln Thr Gly Lys Lys Asp Lys Asp
 20 25 30
 Lys Val Ser Leu Thr Lys Thr Pro Lys Leu Glu Arg Gly Asp Gly Gly
 35 40 45
 Lys Glu Val Arg Glu Arg Ala Ser Lys Arg Lys Leu Pro Phe Thr Ala
 50 55 60
 Gly Ala Asn Gly Glu Gln Lys Asp Ser Asp Thr Glu Lys Gln Gly Pro
 65 70 75 80
 Glu Arg Lys Arg Ile Lys Lys Glu Pro Val Thr Arg Lys Ala Gly Leu
 85 90 95
 Leu Phe Gly Met Gly Leu Ser Gly Ile Arg Ala Gly Tyr Pro Leu Ser
 100 105 110
 Glu Arg Gln Gln Val Ala Leu Leu Met Gln Met Thr Ala Glu Glu Ser
 115 120 125
 Ala Asn Ser Pro Val Asp Thr Thr Pro Lys His Pro Ser Gln Ser Thr
 130 135 140
 Val Cys Gln Lys Gly Thr Pro Asn Ser Ala Ser Lys Thr Lys Asp Lys
 145 150 155 160
 Leu Asn Lys Arg Asn Glu Arg Gly Glu Thr Arg Leu His Arg Ala Ala
 165 170 175
 Ile Arg Gly Asp Ala Arg Arg Ile Lys Glu Leu Ile Ser Glu Gly Ala
 180 185 190
 Asp Val Asn Val Lys Asp Phe Ala Gly Trp Thr Ala Leu His Glu Ala
 195 200 205
 Cys Asn Arg Gly Tyr Tyr Asp Val Ala Lys Gln Leu Leu Ala Ala Gly
 210 215 220

Ala Glu Val Asn Thr Lys Gly Leu Asp Asp Asp Thr Pro Leu His Asp
 225 230 235 240

Ala Ala Asn Asn Gly His Tyr Lys Val Val Lys Leu Leu Leu Arg Tyr
 245 250 255

Gly Gly Asn Pro Gln Gln Ser Asn Arg Lys Gly Glu Thr Pro Leu Lys
 260 265 270

Val Ala Asn Ser Pro Thr Met Val Asn Leu Leu Leu Gly Lys Gly Thr
 275 280 285

Tyr Thr Ser Ser Glu Glu Ser Ser Thr Glu Ser Ser Glu Glu Glu Asp
 290 295 300

Ala Pro Ser Phe Ala Pro Ser Ser Ser Val Asp Gly Asn Asn Thr Asp
 305 310 315 320

Ser Glu Phe Glu Lys Gly Ser Ser Thr Arg Pro Arg Thr Gln Ser His
 325 330 335

Arg Arg Pro Arg Pro Pro Ser Arg Thr Ser Met Ser Leu Met Arg Thr
 340 345 350

Thr Ser Arg Thr Gly Phe Leu Arg Trp Thr Thr Ser Thr Tyr
 355 360 365

<210> 56

<211> 601

<212> PRT

<213> Homo sapiens

<400> 56

Asn Ala Asp Phe Leu Ser Leu Arg Gln Thr Glu Leu Pro Gly Asn Ser
 1 5 10 15

Cys Ala Gln Asp Pro Ala Ser Phe Met Pro Pro Gln Gln Pro Cys Ser
 20 25 30

Phe Pro Ser Gln Ser Leu Ser Asp Ala Glu Ser Ile Ser Lys His Met
 35 40 45

Ser Leu Ser Tyr Val Ala Asn Gln Glu Pro Gly Ile Leu Gln Gln Lys
 50 55 60

Asn Ala Val Gln Ile Ile Ser Ser Ala Leu Asp Thr Asp Asn Glu Ser
 65 70 75 80

Thr	Lys	Asp	Thr	Glu	Asn	Thr	Phe	Val	Leu	Gly	Asp	Val	Gln	Lys	Thr	85	90	95	
Asp	Ala	Phe	Val	Pro	Val	Tyr	Ser	Asp	Ser	Thr	Ile	Gln	Glu	Ala	Ser	100	105	110	
Pro	Asn	Phe	Glu	Lys	Ala	Tyr	Thr	Leu	Pro	Val	Leu	Pro	Ser	Glu	Lys	115	120	125	
Asp	Phe	Asn	Gly	Ser	Asp	Ala	Ser	Thr	Gln	Leu	Asn	Thr	His	Tyr	Ala	130	135	140	
Phe	Ser	Lys	Leu	Thr	Tyr	Lys	Ser	Ser	Ser	Gly	His	Glu	Val	Glu	Asn	145	150	155	160
Ser	Thr	Thr	Asp	Thr	Gln	Val	Ile	Ser	His	Glu	Lys	Glu	Asn	Lys	Leu	165	170	175	
Glu	Ser	Leu	Val	Leu	Thr	His	Leu	Ser	Arg	Cys	Asp	Ser	Asp	Leu	Cys	180	185	190	
Glu	Met	Asn	Ala	Gly	Met	Pro	Lys	Gly	Asn	Leu	Asn	Glu	Gln	Asp	Pro	195	200	205	
Lys	His	Cys	Pro	Glu	Ser	Glu	Lys	Cys	Leu	Leu	Ser	Ile	Glu	Asp	Glu	210	215	220	
Glu	Ser	Gln	Gln	Ser	Ile	Leu	Ser	Ser	Leu	Glu	Asn	His	Ser	Gln	Gln	225	230	235	240
Ser	Thr	Gln	Pro	Glu	Met	His	Lys	Tyr	Gly	Gln	Leu	Val	Lys	Val	Glu	245	250	255	
Leu	Glu	Glu	Asn	Ala	Glu	Asp	Asp	Lys	Thr	Glu	Asn	Gln	Ile	Pro	Gln	260	265	270	
Arg	Met	Thr	Arg	Asn	Lys	Ala	Asn	Thr	Met	Ala	Asn	Gln	Ser	Lys	Gln	275	280	285	
Ile	Leu	Ala	Ser	Cys	Thr	Leu	Leu	Ser	Glu	Lys	Asp	Ser	Glu	Ser	Ser	290	295	300	
Ser	Pro	Arg	Gly	Arg	Ile	Arg	Leu	Thr	Glu	Asp	Asp	Asp	Pro	Gln	Ile	305	310	315	320
His	His	Pro	Arg	Lys	Arg	Lys	Val	Ser	Arg	Val	Pro	Gln	Pro	Val	Gln	325	330	335	

Val Ser Pro Ser Leu Leu Gln Ala Lys Glu Lys Thr Gln Gln Ser Leu
340 345 350
Ala Ala Ile Val Asp Ser Leu Lys Leu Asp Glu Ile Gln Pro Tyr Ser
355 360 365
Ser Glu Arg Ala Asn Pro Tyr Phe Glu Tyr Leu His Ile Arg Lys Lys
370 375 380
Ile Glu Glu Lys Arg Lys Leu Leu Cys Ser Val Ile Pro Gln Ala Pro
385 390 395 400
Gln Tyr Tyr Asp Glu Tyr Val Thr Phe Asn Gly Ser Tyr Leu Leu Asp
405 410 415
Gly Asn Pro Leu Ser Lys Ile Cys Ile Pro Thr Ile Thr Pro Pro Pro
420 425 430
Ser Leu Ser Asp Pro Leu Lys Glu Leu Phe Arg Gln Gln Glu Val Val
435 440 445
Arg Met Lys Leu Arg Leu Gln His Ser Ile Glu Arg Glu Lys Leu Ile
450 455 460
Val Ser Asn Glu Gln Glu Val Leu Arg Val His Tyr Arg Ala Ala Arg
465 470 475 480
Thr Leu Ala Asn Gln Thr Leu Pro Phe Ser Ala Cys Thr Val Leu Leu
485 490 495
Asp Ala Glu Val Tyr Asn Val Pro Leu Asp Ser Gln Ser Asp Asp Ser
500 505 510
Lys Thr Ser Val Arg Asp Arg Phe Asn Ala Arg Gln Phe Met Ser Trp
515 520 525
Leu Gln Asp Val Asp Asp Lys Phe Asp Lys Leu Lys Thr Cys Leu Leu
530 535 540
Met Arg Gln Gln His Glu Ala Ala Ala Leu Asn Ala Val Gln Arg Leu
545 550 555 560
Glu Trp Gln Leu Lys Leu Gln Glu Leu Asp Pro Ala Thr Tyr Lys Ser
565 570 575
Ile Ser Ile Tyr Glu Ile Gln Glu Phe Tyr Val Pro Leu Val Asp Val
580 585 590

Asn Asp Asp Phe Glu Leu Thr Pro Ile
 595 600

<210> 57
 <211> 999
 <212> PRT
 <213> Homo sapiens

<400> 57
 Met Ile Ser Glu Glu Lys Glu Trp Leu Phe Lys Asp Glu Ile Ile Lys
 1 5 10 15
 Val Ser Lys Asp Glu Lys Ser Leu Lys Arg Ile Lys Gly Met Asn Lys
 20 25 30
 Asp Ile Ser Arg Ser Phe Gln Glu Glu Lys Asp Cys Ser Asn Thr Ala
 35 40 45
 Glu Lys Glu Lys Ser Leu Lys Glu Lys Ser Ser Lys Glu Glu Lys Leu
 50 55 60
 Arg Leu Tyr Lys Glu Glu Arg Lys Thr Pro Lys Arg Gln Lys Asp Lys
 65 70 75 80
 Glu Pro Lys Asp Lys Arg Lys Asp Thr Gly Ala Ala Asp Gly Val Thr
 85 90 95
 Asp Lys Lys Glu Lys Val Leu Glu Lys His Lys Glu Lys Lys Val Lys
 100 105 110
 Glu Tyr Gln Lys Asn Lys Lys Asn Lys Gln Lys Leu Pro Glu Lys Ala
 115 120 125
 Glu Lys Lys Gln Ser Ala Glu Asp Lys Ala Asn Ser Lys His Lys Glu
 130 135 140
 Lys Ser Asp Lys Glu Tyr Ser Lys Glu Arg Lys Ser Leu Arg Ser Ala
 145 150 155 160
 Asp Met Glu Lys Ser Leu Leu Glu Lys Leu Glu Glu Ala Leu His Glu
 165 170 175
 Tyr Arg Asp Asp Ser Ser Asp Lys Ile Thr Thr Thr Glu Arg Asp Ser
 180 185 190
 Gln Glu Arg Lys Val Pro Glu Glu Lys Gly Arg Asp Tyr Lys Glu Gly

195		200		205
Gly Ser Arg Lys Asp Thr	Gly Gln Tyr Glu Lys	Asp Phe Leu Glu Met		
210	215	220		
Val Ala Tyr Gly Val Ser Tyr Asn Met Lys Ala Val Ile Glu Asp Arg				
225	230	235		240
Leu Asn Lys Thr Val Glu Leu Phe Ser Thr Glu Lys Lys Asp Lys Asn				
	245	250		255
Asp Ser Glu Arg Glu Thr Ser Lys Lys Ile Glu Lys Glu Leu Lys Pro				
	260	265		270
Tyr Gly Ser Arg Thr Lys Gln Lys Pro Thr Ala Arg Asp Lys Asp Ser				
	275	280		285
Pro Pro Arg Ala Leu Lys Asp Lys Ser Arg Asp Glu Asp Pro Arg Leu				
	290	295		300
Arg Lys Ala Lys Leu Lys Glu Lys Phe Lys Asp Ser Ala Glu Lys Glu				
305	310	315		320
Lys Asp Asp Ser Val Lys Met Ser Lys Gly Asp Asp Lys Val Ser Pro				
	325	330		335
Ser Lys Asp Pro Gly Lys Lys Asn Ala Arg Pro Arg Glu Lys Leu Arg				
	340	345		350
Gly Asp Gly Asp Met Met Ile Ile Ser Phe Gln Arg Met Phe Ser Gln				
	355	360		365
Lys Asp Leu Glu Ile Glu Glu Arg His Lys Gly His Lys Glu Arg Met				
	370	375		380
Lys Gln Met Glu Lys Leu Arg His Gln Ser Arg Asp Pro Asn Leu Lys				
385	390	395		400
Glu Arg Ala Lys Pro Ala Asp Asp Gly Arg Lys Lys Gly Leu Glu Ile				
	405	410		415
Pro Ala Lys Lys Pro Pro Gly Leu Asp Pro Pro Phe Lys Asp Lys Lys				
	420	425		430
Leu Lys Glu Leu Thr Pro Ile Pro Pro Ala Ala Glu Asn Lys Pro Arg				
	435	440		445
Pro Gly Ser Gly Ala Asp Ser Lys Asp Trp Leu Ala Gly Pro His Met				

450		455		460
Lys Glu Val Leu Pro Ala Ser Pro Arg Pro Asp Gln Ser Arg Pro Val				
465		470		480
Cys Pro Pro Leu Arg Arg Cys Cys Pro Ala Ser Ala Thr Arg Arg Gly				
	485		490	495
His Ser Pro Ala Pro Gly Arg His Arg Gly Pro Ala Gly Tyr Ser Pro				
	500		505	510
His His Pro Pro Gly Ala Gln Leu Pro Gly Ala Ala Gly Arg Gly Leu				
	515		520	525
Ile Gly Ser Ala Ser Glu Asn Pro Val Ser Trp Pro Val Gly Ser Glu				
	530		535	540
Leu Leu Leu Lys Ser Pro Gln Arg Phe Pro Glu Ser Pro Glu Tyr Phe				
545		550		560
Cys Ser Ala Asp Ser Leu His Ser Ala Ala Pro Gly Pro Phe Ser Ala				
	565		570	575
Ser Glu Asn Thr Leu Leu Ile Ala Glu Pro Gly Leu Glu Asp Val Lys				
	580		585	590
Asp Arg Val Glu Ala Ile Pro Ala Thr Ile Ser Thr Ser Glu Ala Ala				
	595		600	605
Pro Tyr Ala Pro Pro Ser Gly Leu Glu Ser Phe Phe Asn Asn Cys Lys				
	610		615	620
Ser Leu Pro Glu Ser Leu Leu Asp Met Ala Pro Glu Ala Cys Asn His				
625		630		640
Cys Gly Ser Asp Ala Phe Ala Gly Ser Glu Asp Asp Leu Asp Leu Gly				
	645		650	655
Ser Phe Ser Leu Pro Glu Leu Pro Leu Gln Thr Lys Asp Val Pro Asp				
	660		665	670
Val Glu Thr Glu Pro Thr Glu Glu Ser Leu Ala Pro Ser Glu Lys Ile				
	675		680	685
Pro Pro Gly Ala Pro Val Val Leu Pro Thr Glu Leu Glu Pro Glu Pro				
	690		695	700
Ser Glu Glu Pro Lys Leu Asp Val Ala Leu Glu Ala Thr Glu Ala Glu				

705		710		715		720
Ala Val Pro Glu Glu Arg Ala Ser Gly Asp Leu Asp Ser Ser Met Glu						
	725			730		735
Pro Thr Pro Val Arg Pro Glu Gln Cys Gln Leu Gly Ser Arg Asp Gln						
	740			745		750
Gly Ala Glu Ala Glu His Leu Leu Pro Pro Ala Ala Ser Leu Cys Ala						
	755			760		765
Pro Asp Thr Pro Cys Pro Pro Trp Thr Leu Trp His Lys Pro Arg Leu						
	770			775		780
Arg Thr Val Leu Ala Pro Thr Thr Thr Leu Arg Ala Ser Arg Ala Ala						
	785			790		795
Ala Pro Ala Glu Gly Pro Pro Cys Gly Ile Asp Pro Glu Ala Thr Glu						
	805			810		815
Ser Glu Pro Lys Pro Thr Ala Glu Ala Pro Lys Ala Pro Arg His Ser						
	820			825		830
Thr Gln Gln Leu Asn Thr Ser Thr Gln Gln Thr Arg Glu Val Ile Gln						
	835			840		845
Gln Thr Leu Ala Thr Ile Val Asp Ala Ile Lys Leu Asp Ala Ile Tyr						
	850			855		860
Pro Tyr His Ser Asp Arg Ala Asn Pro Tyr Phe Glu Phe Leu His Ile						
	865			870		875
Arg Lys Lys Ile Glu Glu Lys Arg Lys Ile Leu Cys Cys Ile Thr Pro						
	885			890		895
Gln Ala Thr Gln Trp Tyr Ala Glu Tyr Val Thr Tyr Thr Gly Ser Tyr						
	900			905		910
Leu Leu Asp Gly Lys Ser Leu Ser Lys Leu His Met Pro Met Ile Ala						
	915			920		925
Pro Pro Pro Ser Leu Arg Ala Ser Ala Thr Arg Thr Ser Gln Cys Ala						
	930			935		940
Thr Gly Ser Thr Pro Ala Ser Ser Ser Pro Gly Ser Met Thr Trp Thr						
	945			950		955
Thr Ile Gln Pro His Glu Asp Leu Leu Thr Trp Gln Gln His Glu Ala						

	965	970	975
Ala Ala Leu Asn Ala Met Gln Arg Met Glu Trp Gln Leu Lys Val Gln			
	980	985	990

Lys Leu Asp Pro Ala Gly His
995

<210> 58
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: ANK, ankyrin
repeats domain sequence

<400> 58
Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu Val
1 5 10 15

Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn
20 25

<210> 59
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: ANK, ankyrin
repeats domain sequence

<400> 59
Asp Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu
1 5 10 15

Val Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn Ala Arg Asp
20 25 30

Lys

<210> 60
<211> 31

<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ANK, ankyrin
repeats domain sequence

<400> 60

Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu Val
1 5 10 15

Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn Ala Arg Asp
20 25 30

<210> 61

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ANK, ankyrin
repeats domain sequence

<400> 61

Gly Arg Thr Pro Leu His Leu Ala Ala Glu Asn Gly Asn Leu Glu Val
1 5 10 15

Val Lys Leu Leu Leu Asp Lys Gly Ala Asp Ile Asn
20 25

<210> 62

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ANK, ankyrin
repeats domain sequence

<400> 62

Asp Gly Arg Thr Pro Leu His Leu Ala Ala Glu Asn Gly Asn Leu Glu
1 5 10 15

Val Val Lys Leu Leu Leu Asp Lys Gly Ala Asp Ile
20 25

<210> 63
 <211> 29
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: ANK, ankyrin
 repeats domain sequence

<400> 63
 Gly Arg Thr Pro Leu His Leu Ala Ala Glu Asn Gly Asn Leu Glu Val
 1 5 10 15
 Val Lys Leu Leu Leu Asp Lys Gly Ala Asp Ile Asn Leu
 20 25

<210> 64
 <211> 287
 <212> PRT
 <213> Homo sapiens

<400> 64
 Met Pro Pro Thr Lys Pro Phe Leu Ala Pro Glu Thr Thr Ser Pro Gly
 1 5 10 15
 Asp Arg Val Glu Thr Pro Val Gly Glu Arg Ala Pro Thr Pro Val Ser
 20 25 30
 Ala Ser Ser Glu Val Ser Pro Glu Ser Gln Glu Asp Ser Glu Thr Pro
 35 40 45
 Ala Glu Glu Asp Ser Gly Ser Glu Gln Pro Pro Asn Ser Val Leu Pro
 50 55 60
 Asp Lys Leu Lys Val Ser Trp Glu Asn Pro Ser Pro Gln Glu Ala Pro
 65 70 75 80
 Ala Ala Glu Ser Ala Glu Ser Ser Gln Ala Pro Cys Ser Glu Thr Ser
 85 90 95
 Glu Ala Ala Pro Arg Glu Gly Gly Lys Pro Pro Thr Pro Pro Pro Lys
 100 105 110
 Ile Leu Ser Glu Lys Leu Lys Ala Ser Met Gly Glu Met Gln Ala Ser
 115 120 125

Gly Pro Pro Ala Pro Gly Thr Val Gln Val Ser Val Asn Gly Met Asp
 130 135 140

Asp Ser Pro Glu Pro Ala Lys Pro Ser Gln Ala Glu Gly Thr Pro Gly
 145 150 155 160

Thr Pro Pro Lys Asp Ala Thr Thr Ser Thr Ala Leu Pro Pro Trp Asp
 165 170 175

Leu Pro Pro Gln Phe His Pro Arg Cys Ser Ser Leu Gly Asp Leu Leu
 180 185 190

Gly Glu Gly Pro Arg His Pro Leu Gln Pro Arg Glu Arg Leu Tyr Arg
 195 200 205

Ala Gln Leu Glu Val Lys Val Ala Ser Glu Gln Thr Glu Lys Leu Leu
 210 215 220

Asn Lys Val Leu Gly Ser Glu Pro Ala Pro Val Ser Ala Glu Thr Leu
 225 230 235 240

Leu Ser Gln Ala Val Glu Gln Leu Arg Gln Ala Thr Gln Val Leu Gln
 245 250 255

Glu Met Arg Asp Leu Gly Glu Leu Ser Gln Glu Ala Pro Gly Leu Arg
 260 265 270

Glu Lys Arg Lys Glu Leu Val Thr Leu Tyr Arg Arg Ser Ala Pro
 275 280 285

<210> 65

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Pleckstrin
 homology domain sequence

<400> 65

Ile Val Lys Glu Gly Trp Leu Leu Lys Lys Ser Thr Val Lys Lys Lys
 1 5 10 15

Arg Trp Lys Lys Arg Tyr Phe Phe Leu Phe Asn Asp Val Leu Ile Tyr
 20 25 30

Tyr Lys Asp Lys Lys Lys Ser Tyr Glu Pro Lys Gly Ser Ile Pro Leu

35	40	45
Ser Gly Cys Ser Val Glu Asp Val Pro Asp Ser Glu Phe Lys Arg Pro		
50	55	60
Asn Cys Phe Gln Leu Arg Ser Arg Asp Gly Lys Glu Thr Phe Ile Leu		
65	70	75 80
Gln Ala Glu Ser Glu Glu Glu Arg Gln Asp Trp Ile Lys Ala Ile Gln		
85	90	95
Ser Ala Ile		

<210> 66
 <211> 103
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Pleckstrin
 homology domain sequence

<400> 66
Val Ile Lys Glu Gly Trp Leu Leu Lys Lys Ser Ser Gly Gly Lys Lys
1 5 10 15
Ser Trp Lys Lys Arg Tyr Phe Val Leu Phe Asn Gly Val Leu Leu Tyr
20 25 30
Tyr Lys Ser Lys Lys Lys Lys Ser Ser Ser Lys Pro Lys Gly Ser Ile
35 40 45
Pro Leu Ser Gly Cys Thr Val Arg Glu Ala Pro Asp Ser Asp Ser Asp
50 55 60
Lys Lys Lys Asn Cys Phe Glu Ile Val Thr Pro Asp Arg Lys Thr Leu
65 70 75 80
Leu Leu Gln Ala Glu Ser Glu Glu Glu Arg Lys Glu Trp Val Glu Ala
85 90 95
Leu Arg Lys Ala Ile Ala Lys
100

<210> 67

<211> 431
 <212> PRT
 <213> Mus musculus

<400> 67

Met	Arg	Arg	Leu	Arg	Arg	Leu	Val	His	Leu	Val	Leu	Leu	Cys	Pro	Phe	1	5	10	15
Ser	Lys	Gly	Leu	Gln	Gly	Arg	Leu	Pro	Gly	Leu	Arg	Val	Lys	Tyr	Val	20	25	30	
Leu	Leu	Val	Trp	Leu	Gly	Ile	Phe	Val	Gly	Ser	Trp	Met	Val	Tyr	Val	35	40	45	
His	Tyr	Ser	Ser	Tyr	Ser	Glu	Leu	Cys	Arg	Gly	His	Val	Cys	Gln	Val	50	55	60	
Val	Ile	Cys	Asp	Gln	Tyr	Arg	Lys	Gly	Ile	Ile	Ser	Gly	Ser	Val	Cys	65	70	75	80
Gln	Asp	Leu	Cys	Glu	Leu	Gln	Lys	Val	Glu	Trp	Arg	Thr	Cys	Leu	Ser	85	90	95	
Ser	Ala	Pro	Gly	Gln	Gln	Val	Tyr	Ser	Gly	Leu	Trp	Gln	Asp	Lys	Glu	100	105	110	
Val	Thr	Ile	Lys	Cys	Gly	Ile	Glu	Glu	Ala	Leu	Asn	Ser	Lys	Ala	Trp	115	120	125	
Pro	Asp	Ala	Ala	Pro	Arg	Arg	Glu	Leu	Val	Leu	Phe	Asp	Lys	Pro	Thr	130	135	140	
Arg	Gly	Thr	Ser	Ile	Lys	Glu	Phe	Arg	Glu	Met	Thr	Leu	Ser	Phe	Leu	145	150	155	160
Lys	Ala	Asn	Leu	Gly	Asp	Leu	Pro	Ser	Leu	Pro	Ala	Leu	Val	Asp	Gln	165	170	175	
Ile	Leu	Leu	Met	Ala	Asp	Phe	Asn	Lys	Asp	Ser	Arg	Val	Ser	Leu	Ala	180	185	190	
Glu	Ala	Lys	Ser	Val	Trp	Ala	Leu	Leu	Gln	Arg	Asn	Glu	Phe	Leu	Leu	195	200	205	
Leu	Leu	Ser	Leu	Gln	Glu	Lys	Glu	His	Ala	Ser	Arg	Leu	Leu	Gly	Tyr	210	215	220	
Cys	Gly	Asp	Leu	Tyr	Leu	Thr	Glu	Gly	Ile	Pro	His	Gly	Ser	Trp	His				

225		230		235		240									
Gly	Ala	Val	Leu	Leu	Pro	Ala	Leu	Arg	Pro	Leu	Leu	Pro	Ser	Val	Leu
			245						250					255	
His	Arg	Ala	Leu	Gln	Gln	Trp	Phe	Gly	Pro	Ala	Trp	Pro	Trp	Arg	Ala
			260					265						270	
Lys	Ile	Ala	Ile	Gly	Leu	Leu	Glu	Phe	Val	Glu	Glu	Leu	Phe	His	Gly
		275					280						285		
Ser	Tyr	Gly	Thr	Phe	Tyr	Met	Cys	Glu	Thr	Thr	Leu	Ala	Asn	Val	Gly
	290					295						300			
Tyr	Thr	Ala	Thr	Tyr	Asp	Phe	Lys	Met	Ala	Asp	Leu	Gln	Gln	Val	Ala
305					310					315					320
Pro	Glu	Ala	Thr	Val	Arg	Arg	Phe	Leu	Gln	Gly	Arg	His	Cys	Glu	Gln
			325						330					335	
Ser	Ser	Asp	Cys	Ile	Tyr	Gly	Arg	Asp	Cys	Arg	Ala	Pro	Cys	Asp	Arg
		340						345					350		
Leu	Met	Arg	Gln	Cys	Lys	Gly	Asp	Leu	Ile	Gln	Pro	Asn	Leu	Ala	Lys
	355						360					365			
Val	Cys	Glu	Leu	Leu	Arg	Asp	Tyr	Leu	Leu	Pro	Gly	Ala	Pro	Ala	Gly
	370					375					380				
Leu	Tyr	Glu	Glu	Leu	Gly	Lys	Gln	Leu	Arg	Thr	Cys	Thr	Thr	Leu	Ser
385					390					395					400
Gly	Leu	Ala	Ser	Gln	Ile	Glu	Ala	His	His	Ser	Leu	Val	Leu	Ser	His
			405						410					415	
Leu	Lys	Thr	Leu	Leu	Trp	Arg	Glu	Ile	Ser	Asn	Thr	Asn	Tyr	Ser	
		420						425					430		

<210> 68

<211> 428

<212> PRT

<213> Mus musculus

<400> 68

Met	Val	Tyr	Val	His	Tyr	Ser	Ser	Tyr	Ser	Glu	Leu	Cys	Arg	Gly	His
1				5					10					15	

Val	Cys	Gln	Val	Val	Ile	Cys	Asp	Gln	Tyr	Arg	Lys	Gly	Ile	Ile	Ser	20	25	30	
Gly	Ser	Val	Cys	Gln	Asp	Leu	Cys	Glu	Leu	Gln	Lys	Val	Glu	Trp	Arg	35	40	45	
Thr	Cys	Leu	Ser	Ser	Ala	Pro	Gly	Gln	Gln	Val	Tyr	Ser	Gly	Leu	Trp	50	55	60	
Gln	Asp	Lys	Glu	Val	Thr	Ile	Lys	Cys	Gly	Ile	Glu	Glu	Ala	Leu	Asn	65	70	75	80
Ser	Lys	Ala	Trp	Pro	Asp	Ala	Ala	Pro	Arg	Arg	Glu	Leu	Val	Leu	Phe	85	90	95	
Asp	Lys	Pro	Thr	Arg	Gly	Thr	Ser	Ile	Lys	Glu	Phe	Arg	Glu	Met	Thr	100	105	110	
Leu	Ser	Phe	Leu	Lys	Ala	Asn	Leu	Gly	Asp	Leu	Pro	Ser	Leu	Pro	Ala	115	120	125	
Leu	Val	Asp	Gln	Ile	Leu	Leu	Met	Ala	Asp	Phe	Asn	Lys	Asp	Ser	Arg	130	135	140	
Val	Ser	Leu	Ala	Glu	Ala	Lys	Ser	Val	Trp	Ala	Leu	Leu	Gln	Arg	Asn	145	150	155	160
Glu	Phe	Leu	Leu	Leu	Leu	Ser	Leu	Gln	Glu	Lys	Glu	His	Ala	Ser	Arg	165	170	175	
Leu	Leu	Gly	Tyr	Cys	Gly	Asp	Leu	Tyr	Leu	Thr	Glu	Gly	Ile	Pro	His	180	185	190	
Gly	Ser	Trp	His	Gly	Ala	Val	Leu	Leu	Pro	Ala	Leu	Arg	Pro	Leu	Leu	195	200	205	
Pro	Ser	Val	Leu	His	Arg	Ala	Leu	Gln	Gln	Trp	Phe	Gly	Pro	Ala	Trp	210	215	220	
Pro	Trp	Arg	Ala	Lys	Ile	Ala	Ile	Gly	Leu	Leu	Glu	Phe	Val	Glu	Glu	225	230	235	240
Leu	Phe	His	Gly	Ser	Tyr	Gly	Thr	Phe	Tyr	Met	Cys	Glu	Thr	Thr	Leu	245	250	255	
Ala	Asn	Val	Gly	Tyr	Thr	Ala	Thr	Tyr	Asp	Phe	Lys	Met	Ala	Asp	Leu	260	265	270	

Gln Gln Val Ala Pro Glu Ala Thr Val Arg Arg Phe Leu Gln Gly Arg
 275 280 285

His Cys Glu Gln Ser Ser Asp Cys Ile Tyr Gly Arg Asp Cys Arg Ala
 290 295 300

Pro Cys Asp Arg Leu Met Arg Gln Cys Lys Gly Asp Leu Ile Gln Pro
 305 310 315 320

Asn Leu Ala Lys Val Cys Glu Leu Leu Arg Asp Tyr Leu Leu Pro Gly
 325 330 335

Ala Pro Ala Gly Leu Tyr Glu Glu Leu Gly Lys Gln Cys Ala Pro Ala
 340 345 350

Pro Gln Lys Val Asp Trp Pro Ala Arg Leu Arg Leu Thr Ile His Trp
 355 360 365

Cys Leu Ala Thr Leu Arg Pro Tyr Ser Gly Gly Arg Ser Pro Thr Pro
 370 375 380

Thr Thr Pro Arg Ala Ala Gly Ser Arg His Tyr Ser Ser Gln Val Ala
 385 390 395 400

Pro Pro His Ser Leu Gln Gln Leu Ser Arg Gly Ala Arg Gly Pro Tyr
 405 410 415

Gln Arg Trp Pro Thr Gly Pro Asn Pro Pro Asn Met
 420 425

<210> 69
 <211> 266
 <212> PRT
 <213> Homo sapiens

<400> 69
 Met Val Glu Trp Arg Thr Cys Leu Ser Val Ala Pro Gly Gln Gln Val
 1 5 10 15

Tyr Ser Gly Leu Trp Arg Asp Lys Asp Val Thr Ile Lys Cys Gly Ile
 20 25 30

Glu Glu Thr Leu Asp Ser Lys Ala Arg Ser Asp Ala Ala Pro Arg Arg
 35 40 45

Glu Leu Val Leu Phe Asp Lys Pro Thr Arg Gly Thr Ser Ile Lys Glu
 50 55 60

Phe Arg Glu Met Thr Leu Gly Phe Leu Lys Ala Asn Leu Gly Asp Leu
65 70 75 80

Pro Ser Leu Pro Ala Leu Val Gly Gln Val Leu Leu Met Ala Asp Phe
85 90 95

Asn Lys Asp Asn Arg Val Ser Leu Ala Glu Ala Lys Ser Val Trp Ala
100 105 110

Leu Leu Gln Arg Asn Glu Phe Leu Leu Leu Leu Ser Leu Gln Glu Lys
115 120 125

Glu His Ala Ser Arg Leu Leu Gly Tyr Cys Gly Asp Leu Tyr Leu Thr
130 135 140

Glu Gly Val Pro His Gly Ala Trp His Ala Ala Ala Leu Pro Pro Leu
145 150 155 160

Leu Arg Pro Leu Leu Pro Pro Ala Leu Gln Gly Ala Leu Gln Gln Trp
165 170 175

Leu Gly Pro Ala Trp Pro Trp Arg Ala Lys Ile Ala Ile Gly Leu Leu
180 185 190

Glu Phe Val Glu Glu Leu Phe His Gly Ser Tyr Gly Thr Phe Tyr Met
195 200 205

Cys Glu Thr Thr Leu Ala Asn Val Gly Tyr Thr Ala Thr Tyr Asp Phe
210 215 220

Lys Met Ala Asp Leu Gln Gln Val Ala Pro Glu Ala Thr Val Arg Arg
225 230 235 240

Phe Leu Gln Gly Arg Arg Cys Glu His Ser Thr Asp Cys Thr Thr Gly
245 250 255

Ala Thr Ala Gly Pro Arg Val Thr Gly Ser
260 265

<210> 70

<211> 428

<212> PRT

<213> Mus musculus

<400> 70

Met Ala Arg Ser Leu Cys Ala Gly Ala Trp Leu Arg Lys Pro His Tyr

1	5	10	15
Leu Gln Ala Arg Leu Ser Tyr Met Arg Val Lys Tyr Leu Phe Phe Ser	20	25	30
Trp Leu Val Val Phe Val Gly Ser Trp Ile Ile Tyr Val Gln Tyr Ser	35	40	45
Thr Tyr Thr Glu Leu Cys Arg Gly Lys Asp Cys Lys Lys Ile Ile Cys	50	55	60
Asp Lys Tyr Lys Thr Gly Val Ile Asp Gly Pro Ala Cys Asn Ser Leu	65	70	75
Cys Val Thr Glu Thr Leu Tyr Phe Gly Lys Cys Leu Ser Asn Lys Pro	85	90	95
Ser Asn Gln Met Tyr Leu Gly Val Trp Asp Asn Leu Pro Gly Val Val	100	105	110
Lys Cys Gln Met Glu Gln Ala Leu His Leu Asp Phe Gly Thr Glu Leu	115	120	125
Glu Pro Arg Lys Glu Ile Val Leu Phe Asp Lys Pro Thr Arg Gly Thr	130	135	140
Thr Val Gln Lys Phe Lys Glu Met Val Tyr Ser Leu Phe Lys Ala Lys	145	150	155
Leu Gly Asp Gln Gly Asn Leu Ser Glu Leu Val Asn Leu Ile Leu Thr	165	170	175
Val Ala Asp Gly Asp Arg Asp Gly Gln Val Ser Leu Gly Glu Ala Lys	180	185	190
Ser Ala Trp Ala Leu Leu Gln Leu Asn Glu Phe Leu Leu Met Val Ile	195	200	205
Leu Gln Asp Lys Glu His Thr Pro Lys Leu Met Gly Phe Cys Gly Asp	210	215	220
Leu Tyr Val Met Glu Ser Val Glu Tyr Thr Ser Leu Tyr Gly Ile Ser	225	230	235
Leu Pro Trp Val Met Glu Leu Phe Ile Pro Ser Gly Phe Arg Arg Ser	245	250	255
Met Asp Gln Leu Phe Thr Pro Ser Trp Pro Arg Lys Ala Lys Ile Ala			

260	265	270
Ile Gly Leu Leu Glu Phe Val	Glu Asp Val Phe His Gly Pro Tyr Gly	
275	280	285
Asn Phe Leu Met Cys Asp Thr Ser Ala Lys Asn Leu Gly Tyr Asn Glu		
290	295	300
Lys Tyr Asp Leu Lys Met Val Asp Met Arg Lys Ile Val Pro Glu Thr		
305	310	315 320
Asn Leu Lys Glu Leu Ile Lys Asp Arg His Cys Glu Ser Asp Leu Asp		
325	330	335
Cys Val Tyr Gly Thr Asp Cys Arg Thr Ser Cys Asp Leu Ser Thr Met		
340	345	350
Lys Cys Thr Ser Glu Val Ile Gln Pro Asn Leu Ala Lys Ala Cys Gln		
355	360	365
Leu Leu Lys Asp Tyr Leu Leu His Gly Ala Pro Ser Glu Ile Arg Glu		
370	375	380
Glu Leu Glu Lys Gln Leu Tyr Ser Cys Ile Ala Leu Lys Val Thr Ala		
385	390	395 400
Asn Gln Met Glu Met Glu His Ser Leu Ile Leu Asn Asn Leu Lys Thr		
405	410	415
Leu Leu Trp Lys Lys Ile Ser Tyr Thr Asn Asp Ser		
420	425	

<210> 71
 <211> 403
 <212> PRT
 <213> Homo sapiens

<400> 71
 Met Lys Tyr Leu Phe Phe Ser Trp Leu Val Val Phe Val Gly Ser Trp
 1 5 10 15
 Ile Ile Tyr Val Gln Tyr Ser Thr Tyr Thr Glu Leu Cys Arg Gly Lys
 20 25 30
 Asp Cys Lys Lys Ile Ile Cys Asp Lys Tyr Lys Thr Gly Val Ile Asp
 35 40 45

Gly	Pro	Ala	Cys	Asn	Ser	Leu	Cys	Val	Thr	Glu	Thr	Leu	Tyr	Phe	Gly	50	55	60	
Lys	Cys	Leu	Ser	Thr	Lys	Pro	Asn	Asn	Gln	Met	Tyr	Leu	Gly	Ile	Trp	65	70	75	80
Asp	Asn	Leu	Pro	Gly	Val	Val	Lys	Cys	Gln	Met	Glu	Gln	Ala	Leu	His	85	90	95	
Leu	Asp	Phe	Gly	Thr	Glu	Leu	Glu	Pro	Arg	Lys	Glu	Ile	Val	Leu	Phe	100	105	110	
Asp	Lys	Pro	Thr	Arg	Gly	Thr	Thr	Val	Gln	Lys	Phe	Lys	Glu	Met	Val	115	120	125	
Tyr	Ser	Leu	Phe	Lys	Ala	Lys	Leu	Gly	Asp	Gln	Gly	Asn	Leu	Ser	Glu	130	135	140	
Leu	Val	Asn	Leu	Ile	Leu	Thr	Val	Ala	Asp	Gly	Asp	Lys	Asp	Gly	Gln	145	150	155	160
Val	Ser	Leu	Gly	Glu	Ala	Lys	Ser	Ala	Trp	Ala	Leu	Leu	Gln	Leu	Asn	165	170	175	
Glu	Phe	Leu	Leu	Met	Val	Ile	Leu	Gln	Asp	Lys	Glu	His	Thr	Pro	Lys	180	185	190	
Leu	Met	Gly	Phe	Cys	Gly	Asp	Leu	Tyr	Val	Met	Glu	Ser	Val	Glu	Tyr	195	200	205	
Thr	Ser	Leu	Tyr	Gly	Ile	Ser	Leu	Pro	Trp	Val	Ile	Glu	Leu	Phe	Ile	210	215	220	
Pro	Ser	Gly	Phe	Arg	Arg	Ser	Met	Asp	Gln	Leu	Phe	Thr	Pro	Ser	Trp	225	230	235	240
Pro	Arg	Lys	Ala	Lys	Ile	Ala	Ile	Gly	Leu	Leu	Glu	Phe	Val	Glu	Asp	245	250	255	
Val	Phe	His	Gly	Pro	Tyr	Gly	Asn	Phe	Leu	Met	Cys	Asp	Thr	Ser	Ala	260	265	270	
Lys	Asn	Leu	Gly	Tyr	Asn	Asp	Lys	Tyr	Asp	Leu	Lys	Met	Val	Asp	Met	275	280	285	
Arg	Lys	Ile	Val	Pro	Glu	Thr	Asn	Leu	Lys	Glu	Leu	Ile	Lys	Asp	Arg	290	295	300	

His Cys Glu Ser Asp Leu Asp Cys Val Tyr Gly Thr Asp Cys Arg Thr
 305 310 315 320

Ser Cys Asp Gln Ser Thr Met Lys Cys Thr Ser Glu Val Ile Gln Pro
 325 330 335

Asn Leu Ala Lys Ala Cys Gln Leu Leu Lys Asp Tyr Leu Leu Arg Gly
 340 345 350

Ala Pro Ser Glu Ile Arg Glu Glu Leu Glu Lys Gln Leu Tyr Ser Cys
 355 360 365

Ile Ala Leu Lys Val Thr Ala Asn Gln Met Glu Met Glu His Ser Leu
 370 375 380

Ile Leu Asn Asn Leu Lys Thr Leu Leu Trp Lys Lys Ile Ser Tyr Thr
 385 390 395 400

Asn Asp Ser

<210> 72
 <211> 311
 <212> PRT
 <213> Homo sapiens

<400> 72
 Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly
 1 5 10 15

Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu
 20 25 30

Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val
 35 40 45

Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60

His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln
 65 70 75 80

Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly
 85 90 95

Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys
 100 105 110

Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu
 130 135 140

Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser
 145 150 155 160

Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His
 165 170 175

Phe Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr Val
 180 185 190

Ala Ile Glu Gly Thr Val Phe Val Leu Lys Lys Gly Val Val Leu Ser
 195 200 205

Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala Val
 210 215 220

Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr Cys
 225 230 235 240

Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile Tyr
 245 250 255

Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Met Phe Leu
 260 265 270

Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu Ile Tyr
 275 280 285

Thr Leu Arg Arg Glu Val Lys Gly Ala Leu Gly Arg Leu Leu Leu Gly
 290 295 300

Lys Arg Glu Leu Gly Lys Glu
 305 310

<210> 73

<211> 314

<212> PRT

<213> Marmota marmota

<400> 73

Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly

1	5	10	15
Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu	20	25	30
Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val	35	40	45
Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala	50	55	60
His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln	65	70	75
Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly	85	90	95
Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys	100	105	110
Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys	115	120	125
Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu	130	135	140
Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser	145	150	155
Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His	165	170	175
Phe Leu Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr	180	185	190
Val Ala Ile Glu Gly Thr Val Phe Val Leu Lys Lys Gly Val Val Leu	195	200	205
Ser Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala	210	215	220
Val Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr	225	230	235
Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile	245	250	255
Tyr Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Gly Met			

Thr	Leu	Thr	Leu	Asn	Leu	Pro	Thr	Cys	Gly	Asn	Asn	Ile	Leu	Asp	His
				165					170					175	
Phe	Leu	Cys	Glu	Leu	Pro	Ala	Leu	Val	Lys	Ile	Ala	Cys	Val	Asp	Thr
			180					185					190		
Thr	Thr	Val	Glu	Met	Ser	Val	Phe	Ala	Leu	Gly	Ile	Ile	Ile	Val	Leu
		195					200					205			
Thr	Pro	Leu	Ile	Leu	Ile	Leu	Ile	Ser	Tyr	Gly	Tyr	Ile	Ala	Lys	Ala
	210					215					220				
Val	Leu	Arg	Thr	Lys	Ser	Lys	Ala	Ser	Gln	Arg	Lys	Ala	Met	Asn	Thr
225				230						235					240
Cys	Gly	Ser	His	Leu	Thr	Val	Val	Ser	Met	Phe	Tyr	Gly	Thr	Ile	Ile
				245					250					255	
Tyr	Met	Tyr	Leu	Gln	Pro	Gly	Asn	Arg	Ala	Ser	Lys	Asp	Gln	Gly	Lys
			260					265					270		
Phe	Leu	Thr	Leu	Phe	Tyr	Thr	Val	Ile	Thr	Pro	Ser	Leu	Asn	Pro	Leu
		275					280					285			
Ile	Tyr	Thr	Leu	Arg	Asn	Lys	Asp	Met	Lys	Asp	Ala	Leu	Lys	Lys	Leu
	290					295					300				
Met	Arg	Phe	His	His	Lys	Ser	Thr	Lys	Ile	Lys	Arg	Asn	Cys	Lys	Ser
305					310					315					320

<210> 75
 <211> 320
 <212> PRT
 <213> Homo sapiens

<400> 75															
Met	Asp	Gln	Ser	Asn	Tyr	Ser	Ser	Leu	His	Gly	Phe	Ile	Leu	Leu	Gly
1				5					10					15	
Phe	Ser	Asn	His	Pro	Lys	Met	Glu	Met	Ile	Leu	Ser	Gly	Val	Val	Ala
			20					25					30		
Ile	Phe	Tyr	Leu	Ile	Thr	Leu	Val	Gly	Asn	Thr	Ala	Ile	Ile	Leu	Ala
		35					40					45			

Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
 65 70 75 80

Val Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly
 85 90 95

Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys
 100 105 110

Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met
 130 135 140

Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys
 145 150 155 160

Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His
 165 170 175

Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr
 180 185 190

Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu
 195 200 205

Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala
 210 215 220

Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile
 245 250 255

Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys
 260 265 270

Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Lys Leu
 290 295 300

Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser
 305 310 315 320

<210> 76

<211> 320

<212> PRT

<213> Homo sapiens

<400> 76

Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
 1 5 10 15

Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
 20 25 30

Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
 35 40 45

Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
 65 70 75 80

Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly
 85 90 95

Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys
 100 105 110

Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met
 130 135 140

Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys
 145 150 155 160

Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His
 165 170 175

Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr

180	185	190
Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu		
195	200	205
Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala		
210	215	220
Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr		
225	230	235
Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile		
245	250	255
Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys		
260	265	270
Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu		
275	280	285
Ile Tyr Thr Leu Arg Asn Lys Asn Met Lys Asp Ala Leu Lys Lys Leu		
290	295	300
Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser		
305	310	315
		320

<210> 77
 <211> 254
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: 7tm_1, 7
 transmembrane receptor domain sequence

<400> 77
 Gly Asn Leu Leu Val Ile Leu Val Ile Leu Arg Thr Lys Lys Leu Arg
 1 5 10 15
 Thr Pro Thr Asn Ile Phe Leu Leu Asn Leu Ala Val Ala Asp Leu Leu
 20 25 30
 Phe Leu Leu Thr Leu Pro Pro Trp Ala Leu Tyr Tyr Leu Val Gly Gly
 35 40 45

Asp Trp Val Phe Gly Asp Ala Leu Cys Lys Leu Val Gly Ala Leu Phe
50 55 60

Val Val Asn Gly Tyr Ala Ser Ile Leu Leu Leu Thr Ala Ile Ser Ile
65 70 75 80

Asp Arg Tyr Leu Ala Ile Val His Pro Leu Arg Tyr Arg Arg Ile Arg
85 90 95

Thr Pro Arg Arg Ala Lys Val Leu Ile Leu Leu Val Trp Val Leu Ala
100 105 110

Leu Leu Leu Ser Leu Pro Pro Leu Leu Phe Ser Trp Leu Arg Thr Val
115 120 125

Glu Glu Gly Asn Thr Thr Val Cys Leu Ile Asp Phe Pro Glu Glu Ser
130 135 140

Val Lys Arg Ser Tyr Val Leu Leu Ser Thr Leu Val Gly Phe Val Leu
145 150 155 160

Pro Leu Leu Val Ile Leu Val Cys Tyr Thr Arg Ile Leu Arg Thr Leu
165 170 175

Arg Lys Arg Ala Arg Ser Gln Arg Ser Leu Lys Arg Arg Ser Ser Ser
180 185 190

Glu Arg Lys Ala Ala Lys Met Leu Leu Val Val Val Val Val Phe Val
195 200 205

Leu Cys Trp Leu Pro Tyr His Ile Val Leu Leu Leu Asp Ser Leu Cys
210 215 220

Leu Leu Ser Ile Trp Arg Val Leu Pro Thr Ala Leu Leu Ile Thr Leu
225 230 235 240

Trp Leu Ala Tyr Val Asn Ser Cys Leu Asn Pro Ile Ile Tyr
245 250

<210> 78

<211> 188

<212> PRT

<213> Homo sapiens

<400> 78

Met Thr Ala Pro Ser Cys Ala Phe Pro Val Gln Phe Arg Gln Pro Ser

1	5	10	15
Val Ser Gly Leu Ser Gln Ile Thr Lys Ser Leu Tyr Ile Ser Asn Gly			
20	25	30	
Val Ala Ala Asn Asn Lys Leu Met Leu Ser Ser Asn Gln Ile Thr Met			
35	40	45	
Val Ile Asn Val Ser Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile			
50	55	60	
Gln Tyr Met Gln Val Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys			
65	70	75	80
Asp Phe Phe Asp Pro Ile Ala Asp His Ile His Ser Val Glu Met Lys			
85	90	95	
Gln Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala			
100	105	110	
Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu			
115	120	125	
Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn			
130	135	140	
Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly			
145	150	155	160
Lys Asn Thr Val His Met Val Ser Ser Pro Val Gly Met Ile Pro Asp			
165	170	175	
Ile Tyr Glu Lys Glu Val Arg Leu Met Ile Pro Leu			
180	185		

<210> 79

<211> 188

<212> PRT

<213> Mus musculus

<400> 79

Met Thr Ser Pro Trp Ser Ala Phe Pro Val Gln Ile Pro Gln Pro Ser
1 5 10 15

Ile Arg Gly Leu Ser Gln Ile Thr Lys Ser Leu Phe Ile Ser Asn Gly
20 25 30

Val Ala Ala Asn Asn Lys Leu Leu Leu Ser Ser Asn Gln Ile Thr Thr
35 40 45
Val Ile Asn Val Ser Val Glu Val Ala Asn Thr Phe Tyr Glu Asp Ile
50 55 60
Gln Tyr Val Gln Val Pro Val Val Asp Ala Pro Val Ala Arg Leu Ser
65 70 75 80
Asn Phe Phe Asp Ser Val Ala Asp Arg Ile His Ser Val Glu Met Gln
85 90 95
Lys Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala
100 105 110
Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Val
115 120 125
Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn
130 135 140
Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Leu Gln Leu Phe Gly
145 150 155 160
Lys Asn Thr Met Gln Met Met Asp Ser Pro Met Gly Arg Ile Pro Asp
165 170 175
Ile Tyr Glu Lys Glu Thr Arg Leu Met Ile Pro Leu
180 185

<210> 80

<211> 151

<212> PRT

<213> Homo sapiens

<400> 80

Ala Arg Gly Leu Ser Ser Asn Gln Ile Thr Met Val Ile Asn Val Ser
1 5 10 15
Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile Gln Tyr Met Gln Val
20 25 30
Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys Asp Phe Phe Asp Pro
35 40 45
Ile Ala Asp His Ile His Ser Val Glu Met Lys Gln Gly Arg Thr Leu
50 55 60

Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala Ala Leu Cys Leu Ala
65 70 75 80

Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu Asp Ala His Thr Trp
85 90 95

Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn Ser Gly Phe Trp Glu
100 105 110

Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly Lys Asn Thr Val His
115 120 125

Met Val Ser Ser Pro Val Gly Met Ile Pro Asp Ile Tyr Glu Lys Glu
130 135 140

Val Arg Leu Met Ile Pro Leu
145 150

<210> 81

<211> 187

<212> PRT

<213> Mus musculus

<400> 81

Met Thr Thr Ala Ser Cys Ile Phe Pro Ser Gln Ala Thr Gln Gln Asp
1 5 10 15

Asn Ile Tyr Gly Leu Ser Gln Ile Thr Ala Ser Leu Phe Ile Ser Asn
20 25 30

Ser Ala Val Ala Asn Asp Lys Leu Thr Leu Ser Asn Asn His Ile Thr
35 40 45

Thr Ile Ile Asn Val Ser Ala Glu Val Val Asn Thr Phe Phe Glu Asp
50 55 60

Ile Gln Tyr Val Gln Val Pro Val Ser Asp Ala Pro Asn Ser Tyr Leu
65 70 75 80

Tyr Asp Phe Phe Asp Pro Ile Ala Asp Ile His Gly Val Glu Met Arg
85 90 95

Asn Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala
100 105 110

Thr Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Asn Met Thr Leu Leu

115		120		125											
Asp	Ala	His	Thr	Trp	Thr	Lys	Thr	Cys	Arg	Pro	Ile	Ile	Arg	Pro	Asn
130						135					140				
Asn	Gly	Phe	Trp	Glu	Gln	Leu	Ile	His	Tyr	Glu	Phe	Lys	Leu	Phe	Ser
145					150					155				160	
Arg	Asn	Thr	Val	Arg	Met	Ile	Tyr	Ser	Pro	Ile	Gly	Leu	Ile	Pro	Asn
				165					170					175	
Ile	Tyr	Glu	Lys	Ala	Tyr	Leu	Met	Glu	Leu	Met					
		180					185								

<210> 82

<211> 190

<212> PRT

<213> Homo sapiens

<400> 82

Met	Thr	Ala	Ser	Ala	Ser	Ser	Phe	Ser	Ser	Ser	Gln	Gly	Val	Gln	Gln
1			5					10					15		

Pro	Ser	Ile	Tyr	Ser	Phe	Ser	Gln	Ile	Thr	Arg	Ser	Leu	Phe	Leu	Ser
			20					25					30		

Asn	Gly	Val	Ala	Ala	Asn	Asp	Lys	Leu	Leu	Leu	Ser	Ser	Asn	Arg	Ile
		35					40					45			

Thr	Ala	Ile	Val	Asn	Ala	Ser	Val	Glu	Val	Val	Asn	Val	Phe	Phe	Glu
	50					55					60				

Gly	Ile	Gln	Tyr	Ile	Lys	Val	Pro	Val	Thr	Asp	Ala	Arg	Asp	Ser	Arg
65					70					75					80

Leu	Tyr	Asp	Phe	Phe	Asp	Pro	Ile	Ala	Asp	Leu	Ile	His	Thr	Ile	Asp
				85					90					95	

Met	Arg	Gln	Gly	Arg	Thr	Leu	Leu	His	Cys	Met	Ala	Gly	Val	Ser	Arg
		100						105					110		

Ser	Ala	Ser	Leu	Cys	Leu	Ala	Tyr	Leu	Met	Lys	Tyr	His	Ser	Met	Ser
	115						120					125			

Leu	Leu	Asp	Ala	His	Thr	Trp	Thr	Lys	Ser	Arg	Arg	Pro	Ile	Ile	Arg
130						135						140			

Pro Asn Asn Gly Phe Trp Glu Gln Leu Ile Asn Tyr Glu Phe Lys Leu
 145 150 155 160

Phe Asn Asn Asn Thr Val Arg Met Ile Asn Ser Pro Val Gly Asn Ile
 165 170 175

Pro Asp Ile Tyr Glu Lys Asp Leu Arg Met Met Ile Ser Met
 180 185 190

<210> 83

<211> 139

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DSPc, Dual
 specificity phosphatase domain sequence

<400> 83

Gly Pro Ser Glu Ile Leu Pro His Leu Tyr Leu Gly Ser Tyr Ser Asp
 1 5 10 15

Ala Ser Asn Leu Ala Leu Leu Lys Lys Leu Gly Ile Thr His Val Ile
 20 25 30

Asn Val Thr Glu Glu Val Pro Asn Ser Asn Lys Ser Gly Phe Leu Tyr
 35 40 45

Leu Gly Ile Pro Val Asp Asp Asn Thr Glu Thr Lys Ile Ser Pro Tyr
 50 55 60

Leu Pro Glu Ala Val Glu Phe Ile Glu Asp Ala Glu Lys Lys Gly Gly
 65 70 75 80

Lys Val Leu Val His Cys Gln Ala Gly Val Ser Arg Ser Ala Thr Leu
 85 90 95

Ile Ile Ala Tyr Leu Met Lys Tyr Arg Asn Met Ser Leu Asn Asp Ala
 100 105 110

Tyr Asp Phe Val Lys Glu Arg Arg Pro Ile Ile Ser Pro Asn Phe Gly
 115 120 125

Phe Leu Arg Gln Leu Ile Glu Tyr Glu Arg Lys
 130 135

<210> 84
 <211> 139
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Description of
 Artificial Sequence: DSPc, Dual specificity
 phosphatase domain sequence

<400> 84
 Gly Pro Ser Glu Ile Leu Pro His Leu Tyr Leu Gly Ser Tyr Pro Thr
 1 5 10 15
 Ala Ser Asn Leu Ala Phe Leu Ser Lys Leu Gly Ile Thr His Val Ile
 20 25 30
 Asn Val Thr Glu Glu Val Pro Asn Ser Lys Asn Ser Gly Phe Leu Tyr
 35 40 45
 Leu His Ile Pro Val Asp Asp Asn His Glu Thr Asp Ile Ser Pro Tyr
 50 55 60
 Leu Asp Glu Ala Val Glu Phe Ile Glu Asp Ala Arg Gln Lys Gly Gly
 65 70 75 80
 Lys Val Leu Val His Cys Gln Ala Gly Ile Ser Arg Ser Ala Thr Leu
 85 90 95
 Ile Ile Ala Tyr Leu Met Lys Thr Arg Asn Leu Ser Leu Asn Glu Ala
 100 105 110
 Tyr Ser Phe Val Lys Glu Arg Arg Pro Ile Ile Ser Pro Asn Phe Gly
 115 120 125
 Phe Lys Arg Gln Leu Ile Glu Tyr Glu Arg Lys
 130 135

<210> 85
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: PTPc, Protein
 tyrosine phosphatase domain sequence

<400> 85
 Arg Lys Ser Gln Ser Thr Leu Arg Asn Ser Gly Pro Ile Val Val His
 1 5 10 15

Cys Ser Ala Gly Val Gly Arg Thr Gly Thr Phe Ile Ala Ile Asp Ile
 20 25 30

Leu

<210> 86
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: PCR primer
 sequence

<400> 86
 ctggaccgaa gctacagcta ta 22

<210> 87
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: PCR primer
 sequence

<400> 87
 atggcccagg cccattctac aataaa 26

<210> 88
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: PCR primer
 sequence

<400> 88
 cgagctcctc ttcagagatg a 21

<210> 89
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
sequence

<400> 89
gctccttcaa gacggtgtat c 21

<210> 90
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
sequence

<400> 90
ctagacaccg acaccacagt ggaggt 26

<210> 91
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
sequence

<400> 91
ccgctcagct ctagacagtt t 21

<210> 92
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer

sequence

<400> 92

gtaaaggcat ctccacctga ct

22

<210> 93

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
sequence

<400> 93

tcacttccat ccagggccac tgg

23

<210> 94

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
sequence

<400> 94

gggctaatat cagctggaat tc

22

<210> 95

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
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<400> 95

aattgtttgg caagaacact gt

22

<210> 96

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
sequence

<400> 96

ccagtgggaa tgatccctga catcta

26

<210> 97

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
sequence

<400> 97

atcatcaaac ggacttcctt ct

22